Occupational Health Services Study

Executive Summary

September 1987

Manitoba
Environment and
Workplace Safety
and Health

EXECUTIVE SUMMARY

OCCUPATIONAL HEALTH SERVICES STUDY

INTRODUCTION AND BACKGROUND

Study Background

This Report is the result of the decision of the Minister of Environment and Workplace Safety and Health in the Fall of 1985 to initiate a major review of occupational health services in the Province. The review was prompted by a number of factors including: growing concerns about occupational health hazards among society in general; the increasing commitment of the Manitoba government to address these problems in Manitoba workplaces as evidenced by the development of the Workplace Health Regulation under the Manitoba Workplace Safety and Health Act; and the need to review the role and functions of the medical and nursing components of the regulatory agency, the Workplace Safety and Health Division.

The purpose of the Study was to assess the need for occupational health services in Manitoba workplaces, to review the extent and adequacy of existing services, and to develop guidelines for provision of services.

Study Methods

Work done to address the Study's terms of reference can be considered in four categories. These include:

Statistical Base: This included collection and analysis of statistical data to assess the extent and nature of need for occupational health services. It included a review of Manitoba demographic data and available data about the incidence of occupationally related disease. It also included data about the existence and nature of available services, collected through surveys undertaken for the Study.

Emerging Needs: Four surveys were undertaken for the Study to assess perceived needs and concerns about occupational health services of labour and management groups as well as occupational health professionals. These surveys provided an important indication of emerging needs for occupational health services and of the nature of these needs.

Consultation: An extensive consultation process was undertaken involving twelve half day consultation workshops. Approximately 150 representatives of management (including small employers), labour, occupational health professionals, service providers, co-chairpersons of joint health and safety committees, and government representatives participated.

Comparative and Legislative Reviews: This part of the Study involved extensive literature and legislative reviews in order to: compare occupational health service delivery models elsewhere in Canada and in Europe and their experience; emerging regulatory policy in Canadian jurisdictions; and the nature of current problems and concerns about occupational health services.

OCCUPATIONAL HEALTH PREVENTION - A CONCEPTUAL FRAMEWORK

An occupational health prevention system involves a number of interdependent key components--one of which is the provision of appropriate occupational health services. Thus the demand for occupational health services is influenced by a number of factors, including the nature and extent of exposure to occupational hazards and resulting effects on health. It is also influenced by regulatory policy, especially enforcement, as well as awareness levels. For these reasons, it was necessary for the Study to include consideration of other key components in the system.

A wide range of roles and responsibilities internal and external to government are involved directly or implicitly in a prevention system. In addition to the Department of Environment and Workplace Safety and Health, others involved include the Department of Health, the University of Manitoba, Trade Unions, Employers Associations, employers themselves and joint safety and health committees. An effective coordination function is necessary in order to ensure a proper flow of information.

The health care system in Manitoba impacts upon matters of occupational health in a number of important ways. Family or community physicians are most usually involved in the diagnosis and treatment of what may be occupationally related disease or illness. In addition, public health functions often overlap occupational health functions. It is therefore important that the Department of Health review its role as it relates to occupational health.

SCOPE AND FUNCTIONS OF OCCUPATIONAL HEALTH SERVICES

The scope and functions of occupational health services have been comprehensively set out in the recently published International Labour Office Convention on Occupational Health Services. Functions may be broadly categorized as those which aim at primary prevention (workplace hazard identification, assessment and control) and those which aim at secondary prevention (worker health monitoring and surveillance). Occupational health services in Manitoba should give priority to primary prevention functions wherever possible. Implementation of the proposed Workplace Health Regulation will, in any case, make such an approach a necessity.

ISSUES IN OCCUPATIONAL HEALTH SERVICE DELIVERY

The provision of occupational health services involves a number of issues which are increasingly the subject of debate. Such issues include: environmental versus worker monitoring; the independence of occupational health professionals; whether or not medical tests should be mandatory; human rights issues; the ethics of biological monitoring and confidentiality of medical information. These issues must be addressed through the development of appropriate guidelines and standards. The ILO Convention, whether or not formally adopted by Canada, should be regarded as a reference point for the development of such standards.

REGULATORY TRENDS IN CANADA AND ELSEWHERE

The Report reviews the present status of regulatory policy concerning occupational health services in Canada and in European countries. In Europe, mandatory provision of occupational health services--which usually involve employer/labour policy input and direction--has been the norm for a number of years. In Canada, with the exception of Quebec, little regulatory attention has so far been paid to how occupational health services shall be provided.

Current regulatory provisions regarding occupational health services in Manitoba are inconsistent, and in some cases, out of date. The forthcoming Workplace Health Regulation will represent a more comprehensive approach to the identification and control of workplace health hazards. This presents an opportunity to review and replace such existing regulatory provisions.

ASSESSING THE NEED FOR OCCUPATIONAL HEALTH SERVICES IN MANITOBA

Size of the Problem

The Study involved consideration of several measures of need, including the nature and extent of occupational disease, the existence and distribution of potential health hazards and perceived needs of the interested parties.

Existing data bases in Manitoba proved inadequate for the purposes of arriving at precise estimates of the nature and extent of the need for occupational health services in Manitoba. However, extensive review of reliable research strongly suggested that, overall, need for services in Manitoba workplaces is there and must be addressed. For example, extrapolations from research suggest that at least 16,000 hospital stays per year and as many as 226 cases of cancer annually are occupationally related in Manitoba. Associated health costs are substantial and should not be ignored in the disease and illness prevention policy thrusts of the Manitoba Government.

The report considers and makes recommendations about ways in which existing data bases can be improved so that resources can be appropriately directed. However, it is emphasized that steps must be taken now to address currently identified and emerging needs. Recommendations are made to ensure that a suitable framework for responding to needs is developed.

Perceived Needs and Concerns

Perceived needs and concerns of the interested parties (employers, workers and their representatives and occupational health professionals) provide an indication of present demand for services. Surveys and consultation workshops conducted for the Study provide an indication of perceived needs and reflect the nature of emerging needs for occupational health services in Manitoba. Frequently mentioned needs centred around:

- the need for access to an independent source of expert practical advice;
- the need for more education and training about occupational health;
- the need for community/family physicians to be better informed about occupationally related disease and illness;
- the short supply of industrial hygiene expertise/services;

- perceived concerns focus on physical hazards, musculo/skeletal and stress health concerns to a greater extent than on toxic chemicals;
- the need for standards and guidelines on the roles and responsibilities of occupational health services professionals;
- the need for separation between regulatory activities and service provision.

Current Status of Resources and Services in Manitoba

Currently available resources tend to be scattered and require coordination to ensure they are appropriately and effectively provided. This is illustrated by the recently publicized lead exposure cases. A number of points concerning the current status of occupational health related resources and services in Manitoba are considered in detail in the Report including:

- Both quantity and quality of occupational health services must be considered.
- Most currently available resources are provided in-plant by occupational health nurses or part-time by local physicians.
- Industrial hygiene resources (outside of those performing regulatory functions in the Workplace Safety and Health Division) represent the most severe shortage in the Province and this will become critical once the Workplace Health Regulation comes into effect.
- The Manitoba Federation of Labour Occupational Health Centre and Victoria Health Guard currently provide occupational health services, but both are limited in the extent to which they can service Manitoba workplaces.

- The Faculty of Medicine at the University of Manitoba plans to develop a role in occupational health and this should be regarded as a potential resource.

- Any extension of occupational health services requires consideration of suitable manpower availability. This is limited in Manitoba at the present time- study survey results showed only 6 physicians with training and or certification in occupational medicine, six certified occupational health nurses and probably only two certified industrial hygienists. (There are, however, a total of about 47 full-time practising occupational health nurses in the Province as well as a number of community physicians offering some occupational health services on a part-time basis.)

- There are no post-graduate university programs in Manitoba for occupational health physicians or industrial hygienists.

- There is little or no dedicated private sector occupational health service activity available to workplaces on a contract or fee for service basis in the Province.

ADDRESSING NEEDS - RECOMMENDATIONS

Framework Needs

The following recommendations relate to the role of Government in occupational health prevention strategies.

Needs for occupational health services will vary from industry to industry and workplace to workplace. Needs assessment is necessary to ensure appropriate and cost-effective delivery of services. Needs must be assessed at both the provincial level and the workplace level. To generate the information required for macro level needs assessment, the Report recommends that:

A. The Department of Environment and Workplace Safety and Health give priority to the development of an occupational disease and hazard surveillance system in cooperation with federal/provincial government initiatives.

B. The Department of Environment and Workplace Safety and Health and the Department of Health develop formal structures to ensure that necessary cooperation between these two departments takes place in the development of an occupational disease and hazard surveillance system. To facilitate such cooperation, the Department of Health should review its role with regard to occupational health and identify the part it can play in the prevention of occupational disease with particular reference to its health service functions.

C. Occupational health be given a clear multi-disciplinary focus within the Workplace Safety and Health Division and staffed accordingly, including a full-time Chief Occupational Medical Officer and an Occupational Health Nurse.

Functions to be addressed include: the development of the surveillance system as recommended; the development and dissemination of related information; the development of occupational health educational resources; the development of standards and guidelines and the identification of regulatory priorities.

The Division should also develop procedures to ensure that appropriate communication and collaboration between the various disciplines involved takes place in the design and execution of policies and programs.

D. The legal role and functions of the Chief Occupational Medical Officer and the Occupational Health Nurse under the Workplace Safety and Health Act and its regulations be reviewed and clarified to ensure that medical aspects of occupational health, including medical monitoring, health investigation and epidemiology, are addressed. In particular, the Chief Occupational Medical Officer should be provided with the legal power to designate workplaces requiring occupational health services under Section 52 of the Act.

Organizational functions and responsibilities of the Chief Occupational Medical Officer and the Occupational Health Nurse within the Division are also addressed in the Report.

Delivering Occupational Health Services

These recommendations deal with ways and means of increasing availability of occupational health services for Manitoba workplaces to meet present and future needs. They also deal with the need to ensure that service provision meets quality standards and that services are delivered in ways acceptable to employers and labour. Chapter 12 of the Report considers the factors which limit options available for service provision in Manitoba, including: particular demographic and geographic characteristics of the Province--for example, the heavy population concentration in Winnipeg; lack of private sector activity; present low awareness levels about occupational health in many Manitoba workplaces and the special problems of small workplaces.

The Report considers the various options for providing occupational health services and concludes that, given the limiting factors identified, the most feasible option is to provide a framework for the effective deployment of existing services and the development of new services as needs and priorities are identified. Recommendations are:

E. **The Government should facilitate the establishment of a multi-disciplinary core unit, which is separate from the occupational health and safety regulatory agency, to coordinate existing services and to provide or facilitate provision of services not currently available.**

In Chapter 12 of the Report, major functions of the proposed Unit are outlined. These include: coordination of existing services, provision of some services--especially industrial hygiene services and the provision of expert advice.

The Report suggests that the proposed Unit could be established in a number of ways, including a cooperative arrangement with the University of Manitoba's Medical Faculty. However established, the Report recommends that certain important criteria apply to ensure effectiveness and acceptability to employers and labour. These include: bi-partite (labour/employer) policy direction; organizational separation between regulatory functions and service provision; the independence of service providers and the eventual operation of the unit on a cost recovery basis but ensuring full accessability for small companies.

F. **Community Health Departments should play a role in the coordination of local occupational health services and assist in some direct service provision in cooperation with the recommended Core Unit.**

G. **The Government should encourage and facilitate the provision of appropriate education and training to key players to increase effectiveness of existing resources.**

The Report highlights where particular attention should be paid to such training - for example occupational health training for joint safety and health committee members and for family/community physicians.

Standards and Guidelines

Chapter 13 of the Report sets out recommendations designed to ensure that occupational health services, whether provided in a particular workplace, or serving a number of workplaces, meet quality standards and that issues of concern in service provision are addressed. Recommendations are that:

H. The Department of Environment and Workplace Safety and Health draft a regulation and/or appropriate codes of practice setting out standards and guidelines for the delivery of occupational health services whether provided in-plant or externally and whether legally required or provided on a voluntary basis. In developing such guidelines, it is strongly recommended that the 1985 ILO Convention on Occupational Health Services be used as a basic reference point.

I. The Chief Occupational Medical Officer be assigned the role of reviewing medical monitoring procedures on an ongoing basis and providing information and guidelines about validity and appropriate use to all occupational health service providers, to joint committee members, to unions and to employers.

J. The Workplace Safety and Health Act be amended so as to provide joint safety and health committees or worker representatives, as the case may be, with the right to be consulted about the selection of occupational health professionals and to receive regular reports from them at regular intervals about program plans, results and recommendations.

These recommendations are designed to ensure that a suitable framework for addressing the problems of occupational health in Manitoba workplaces exists. Such a framework will ensure that current problems are addressed and that there is timely response to emerging problems in the future. It should also ensure that available resources are effectively directed and that labour, management and government work together in developing solutions acceptable to them all. Improvements in the health status of Manitoba workplaces will be beneficial to workers, employers and society as a whole.

Occupational Health Services Study

Final Report

September 1987

Manitoba
Environment and
Workplace Safety
and Health

OCCUPATIONAL HEALTH SERVICES STUDY

Prepared for

Manitoba Environment and
Workplace Safety and Health

Prepared by:

Dilys Robertson
September 1987

ACKNOWLEDGEMENT

The writer wishes to express sincere appreciation to the members of the Advisory Committee who devoted considerable time, effort, and not least, patience, to the conduct of the study and preparation of the final report. The range of experience represented by members of the committee provided the Study Director with many useful insights and practical advice.

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In Chapter 12 of the Report, major functions of the proposed Unit are outlined. These include: coordination of existing services, provision of some services--especially industrial hygiene services and the provision of expert advice.

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I. **The Chief Occupational Medical Officer be assigned the role of reviewing medical monitoring procedures on an ongoing basis and providing information and guidelines about validity and appropriate use to all occupational health service providers, to joint committee members, to unions and to employers.**

J. **The Workplace Safety and Health Act be amended so as to provide joint safety and health committees or worker representatives, as the case may be, with the right to be consulted about the selection of occupational health professionals and to receive regular reports from them at regular intervals about program plans, results and recommendations.**

These recommendations are designed to ensure that a suitable framework for addressing the problems of occupational health in Manitoba workplaces exists. Such a framework will ensure that current problems are addressed and that there is timely response to emerging problems in the future. It should also ensure that available resources are effectively directed and that labour, management and government work together in developing solutions acceptable to them all. Improvements in the health status of Manitoba workplaces will be beneficial to workers, employers and society as a whole.

CHAPTER 1

INTRODUCTION

1.1 THE STUDY AND ITS BACKGROUND

In the fall of 1985, the Honourable Gerard Lecuyer, Minister of Environment and Workplace Safety and Health, initiated a major review of occupational health services in the Province. The purpose of this review was to assess the needs for such services in Manitoba workplaces and to identify feasible and acceptable ways of meeting them.

Health hazards in the workplace have been the subject of increasing attention in Canada in recent years. Concerns have been reflected in a number of Government sponsored reports, including the recent Macdonald Commission Report on the Economic State of Canada. Occupational health has also received increased regulatory attention across Canadian jurisdictions. Growing awareness about the nature and extent of occupationally related disease and disability as well as regulatory requirements have raised questions about the availability of programs and services to assist workplaces to identify, assess and control health hazards. Such services include both those aimed at primary prevention (for example, industrial hygiene and engineering) as well as secondary prevention (for example, medical monitoring of workers' health). In particular, certain aspects of occupational medicine and medical monitoring of workers have been the subject of some controversy in Canada and elsewhere.

Prompted by these growing concerns, the International Labour Office (ILO) published a new Convention and Recommendations on Occupational Health Services in 1985. It has not yet been formally adopted by the Canadian jurisdictions.

Whether or not it is eventually formally adopted by Canada, it nevertheless serves as an international standard and set of guidelines for occupational health services.

The review of occupational health services in Manitoba was prompted by these general concerns as well as a number of particular circumstances. These are:

- o Manitoba's Workplace Safety and Health Act requires that a Chief Occupational Medical Officer [COMO] be appointed by the Minister responsible for Workplace Safety and Health. Although both a Medical Consultant and an occupational health nurse have in the past been appointed to the Workplace Safety and Health Division on a full-time basis (and at the present time a part-time acting COMO exists in the Division), questions arose as to the appropriate role and mandate of the medical and nursing component within the regulatory framework for occupational health. When these full-time positions were removed from the Division, the nursing and medical profession made strong representations to the Government for their reinstatement. The nursing profession, in particular, was concerned that occupational health nursing be recognized as an important discipline in occupational health prevention programs, especially in the light of the significant number of occupational health nurses employed in Manitoba workplaces.

- o In 1985, Environment and Workplace Safety and Health issued a draft Workplace Health Regulation for discussion and comment. This regulation is designed to provide a regulatory framework for the identification and control of exposure to toxic chemicals in Manitoba workplaces. However, it necessitated the review of the availability of appropriate services which would be required for compliance purposes.

- o Being a relatively small province, Manitoba faces special problems with regard to the availability of specialized services and personnel in the field of occupational health. In addition, the Manitoba economy is dominated by small, independent companies who are unlikely to be in a position to provide their own in-house services.

A review of the needs for and current availability of occupational health services in Manitoba was therefore timely so that these issues could be addressed.

1.2 TERMS OF REFERENCE AND STUDY ORGANIZATION

Terms of reference established for the Study were as follows:

a. To identify various needs for occupational health services, keeping in mind the objective is prevention of occupational diseases and illnesses rather than the more traditional role of treatment.

b. To design comprehensive policies or guidelines for occupational health services which will deal effectively with the "needs" identified above.

c. To review existing resources, their limitations, and problems regarding the effective delivery of preventive occupational health services.

d. To design appropriate strategies to implement the policies or guidelines identified above, to ensure the effective delivery of occupational health services with the objective being prevention of occupational disease and illness.

Meeting the first term of reference (a. above) posed some difficulties for the study since, as is discussed in length in Chapter 8, the data base required to estimate the size of problem as evidenced by the existence of occupationally related disease or of potential health hazards in workplaces does not exist in Manitoba. This lack of relevant data is not unique to Manitoba and indeed is currently being addressed through the Federal/Provincial Environment and Health Committee. However, extensive review of available research as well as review of other measures of demand in Manitoba (for example needs expressed by the interested parties in surveys and during consultation workshops) indicates clearly that there are occupational health problems in Manitoba. The establishment of appropriate data bases as recommended in this Report will help identify priorities and problems which may be unique to Manitoba.

The second term of reference was somewhat ambiguous in wording and was taken for purposes of this study to mean the development of policies to ensure that appropriate and needed occupational health services are provided. The question of the development of standards and guidelines to address some of the sensitive issues in the actual delivery of services was also addressed in the study process and recommendations are made in this Report to ensure that these issues are addressed by the Government.

Resources and responsibility for the study were allocated as follows:

- A Study Director, Dilys Robertson, hired on a full time basis.
- A Senior Medical Reviewer, Dr. Ernie Mastromatteo, responsible for advising the Study Director was appointed on a part-time consulting basis.
- An Advisory Committee responsible for advising the Study Director, overseeing the study process and reviewing the draft and final report was formed. Members of this committee were appointed to represent various interest groups as follows:

  Dr. J. Weeks, an occupational physician

  Beverly Cann, an occupational health nurse

  Clare Cutler, representing the Canadian Manufacturers Association

  Margaret Day, representing the Manitoba Federation of Labour

  William Ward, representing the Workplace Safety and Health Advisory Council

  Brian McQuarrie, an industrial hygienist

Jerry Spiegel, Director, Planning, Research and Evaluation Branch of the Department of Environment and Workplace Safety and Health as an ex-officio member.

Additional resources included a half-time secretary/administrative assistant and other resources, as needed, were provided by the Department of Environment and Workplace Safety and Health.

1.3 SCOPE OF THE STUDY AND DEFINITIONS

1.3.1 Scope of the Study

In order to address the terms of reference, a number of key questions were identified which had to be addressed by the Study. These were:

- What is the extent and nature of the problem of occupationally related disease in Manitoba?
- What services are currently available in the Province and what are the problems/limitations of these?
- What is the current availability of appropriately qualified personnel?
- What are the perceived needs of employers, workers and occupational health professionals for occupational health services?
- What issues must be addressed to ensure effective and acceptable provision of occupational health services?
- What, if any, is the present and potential role of the Primary Care system and the Public Health system in occupational health services provision?
- What is the role of government in the provision of occupational health services?

- What range of services are needed?

- How can existing resources and services be most effectively deployed?

- What are the special needs of small workplaces?

1.3.2 Definitions

A number of key terms are defined below and apply whenever these terms are referred to in the body of the report:

> **Occupational Health Services**: "Services entrusted with essentially preventive functions and responsible for advising the employer, the workers and their representatives in the undertaking on
>
> (i) the requirements for establishing and maintaining a safe and healthy working environment which will facilitate optimal physical and mental health in relation to work;
>
> (ii) the adaptation of work to the capabilities of workers in the light of their state of physical and mental health." [1985 ILO Convention on Occupational Health Services]
>
> **Biological Monitoring**: "The process of measuring the 'absorption of' rather than the 'exposure to' hazardous substances in the workplace. It is a tactic that may be utilized in the course of either health screening or health surveillance. Biological monitoring involves the sampling and analysis of such specimens as blood, urine, feces and sputum." [Ontario Advisory Council on Occupational Health and Safety]

Health Surveillance: "The continuing scrutiny of specific worker sub-groups for the purpose of identifying disorders or health states. Health surveillance involves procedures such as laboratory testing and detailed clinical examinations which evaluate physiological changes and/or evidence of pathology, allowing for a more detailed diagnosis of health conditions." [Ontario Advisory Council on Occupational Health and Safety]

Medical Monitoring: May include both monitoring and health surveillance.

1.4 REPORT ORGANIZATION

The report is divided into three parts. Part A deals with background information and issues relating to the Study and to the organization and provision of occupational health services. Part B considers the current Manitoba situation with regard to needs, the availability of services and resources, and perceptions about needs. Part C discusses options and recommendations for addressing identified problems to meet current and future needs.

CHAPTER 2

STUDY METHODS

2.1 INFORMATION OBJECTIVES

In consultation with the Advisory Committee, a number of key information objectives were identified. These were to:

- Develop a statistical profile of Manitoba workplaces;
- Estimate the nature and extent of occupational health problems in Manitoba workplaces;
- Review legislative models and trends in Canada and elsewhere;
- Assess perceptions about needs of workers, employers, OH professionals and other interested groups; and
- Review the role of government and the related legislative framework, specifically of the Departments of Health and Environment and Workplace Safety and Health.

Tasks required to meet these information objectives were identified and undertaken. These are discussed briefly below and the results are more fully described in various sections of the Report, principally in Part B.

2.2 SURVEYS

Four separate surveys were undertaken to assess current availability of occupational health services as well as the perceptions of various key players about needs and concerns. Two of these surveyed occupational health professionals and two surveyed workers and management.

2.2.1 Occupational Health Professionals

A survey of occupational health nurses working in the Province was undertaken in cooperation with the Manitoba Occupational Health Nurses' Interest Group (an interest group of the Manitoba Association of Registered Nurses), who provided their membership list for this purpose. There was a response rate of 52% for this survey. (See Appendix I for a copy of the questionnaire used.)

A survey of physicians likely to be involved in occupational health was undertaken in cooperation with the Manitoba Medical Association's section on Preventive and Occupational Medicine which also provided a list of their membership. Of the 40 members surveyed, 25 completed and returned questionnaires. (See Appendix II for a copy of the questionnaire used.)

2.2.2 Worker/Management

Two separate surveys were undertaken. The first surveyed participants at a Manitoba Federation of Labour (MFL) Occupational Health and Safety Conference and was undertaken in cooperation with the MFL. One hundred and thirty one responses were received (response rate of 65%) and analysed. (Appendix III contains a copy of the questionnaire used.)

The second survey in this category was conducted through the Workplace Safety and Health Division's Newsletter, WorkSafe!. Since WorkSafe! is distributed to some 35,000 workplaces, it represented an oppportunity to reach small, as well as large workplaces, although it could not be targeted to specific groups. Almost 600 completed responses were received although only 505 were received in time for analysis. Fifty six percent of those analysed were owners or managers. (Appendix IV contains a copy of the questionnaire used.)

2.3 CONSULTATION PROCESS

Consultation with identified interest groups was undertaken through a series of consultation workshops. Separate workshops were conducted for each interest group. Interest groups included: occupational health professionals; occupational health service providers; labour groups; employer groups; co-chairpersons of joint safety and health committees; and government representatives.

Each workshop consisted of a short presentation outlining various issues involved with the Study, followed by structured discussion based on a list of questions prepared and sent out to participants prior to the workshop sessions. The discussion was recorded and a summary of points raised at each session was prepared. This method of consultation allowed for orientation and full and frank discussion.

Appendix V contains a list of those who attended the workshops broken down by interest group, a list of the questions provided to all participants, and a full summary of points raised during all sessions by each issue and interest group.

2.4 LEGAL AND OTHER REVIEWS

Several legal reviews were undertaken in order to assess current legal trends regarding occupational health services in Canada and elsewhere, as well as to assess the current legal mandate of government as it affects occupational health and occupational health services. These reviews, commented on more fully in Chapters 3 and 6, covered:

- Occupational health and safety legislation and related administrative functions in various Canadian provinces.

- Regulatory provision for occupational health services in various European countries.

- Manitoba's Public Health Act and regulations and related administrative functions.

A literature review was also undertaken for purposes of identifying current trends, issues, and matters of concern affecting occupational health services. These issues and concerns are commented on in Chapter 5.

2.5 WRITTEN BRIEFS

Participants to consultation workshops were invited to submit written briefs following the workshop, personally or on behalf of their respective organizations. Twelve letters or briefs were received from individuals or organizations. These are listed in Appendix VI.

2.6 PERSONAL INTERVIEWS AND PRESENTATIONS

During the course of the study, a number of presentations were made by the Study Director at the request of various organizations including the Winnipeg Chamber of Commerce (Human Resources Sub-committee); the Canadian Manufacturers Association (Metal Trades Sub-committee); the Occupational Health Nurses' Interest Group; the Manitoba Federation of Labour (Health and Safety Committee); the Manitoba Medical Association Section on Occupational and Preventive Medicine; the Manitoba Advisory Council on Workplace Safety and Health; and the University of Manitoba's "Good Morning Manitoba".

In addition, a number of people with an interest in various aspects of occupational health services or programs were personally interviewed. The

Study Director travelled to Quebec to meet with various officials of the Quebec Health and Safety Commission (CSST). This was considered important since Quebec is currently the only jurisdiction in Canada which has provided for the delivery of occupational health services through its health/public health system. Appendix VII lists those interviewed for purposes of this Study. The Study Director also had the opportunity to meet with occupational health professionals as well as labour and management representatives at a conference on Medical Monitoring sponsored by the Canadian Centre for Occupational Health and Safety in Hamilton, Ontario.

CHAPTER 3

OCCUPATIONAL HEALTH - A CONCEPTUAL FRAMEWORK

This Chapter considers the key components of an occupational health prevention system, and related roles and responsibilities. It attempts to illustrate the interdependence of various key components, suggesting that the provision of occupational health services cannot be considered in isolation. It also considers, in some detail, the responsibility system for public, environmental and occupational health, illustrating similarities in approach.

3.1 OCCUPATIONAL HEALTH SERVICES WITHIN A PREVENTION SYSTEM

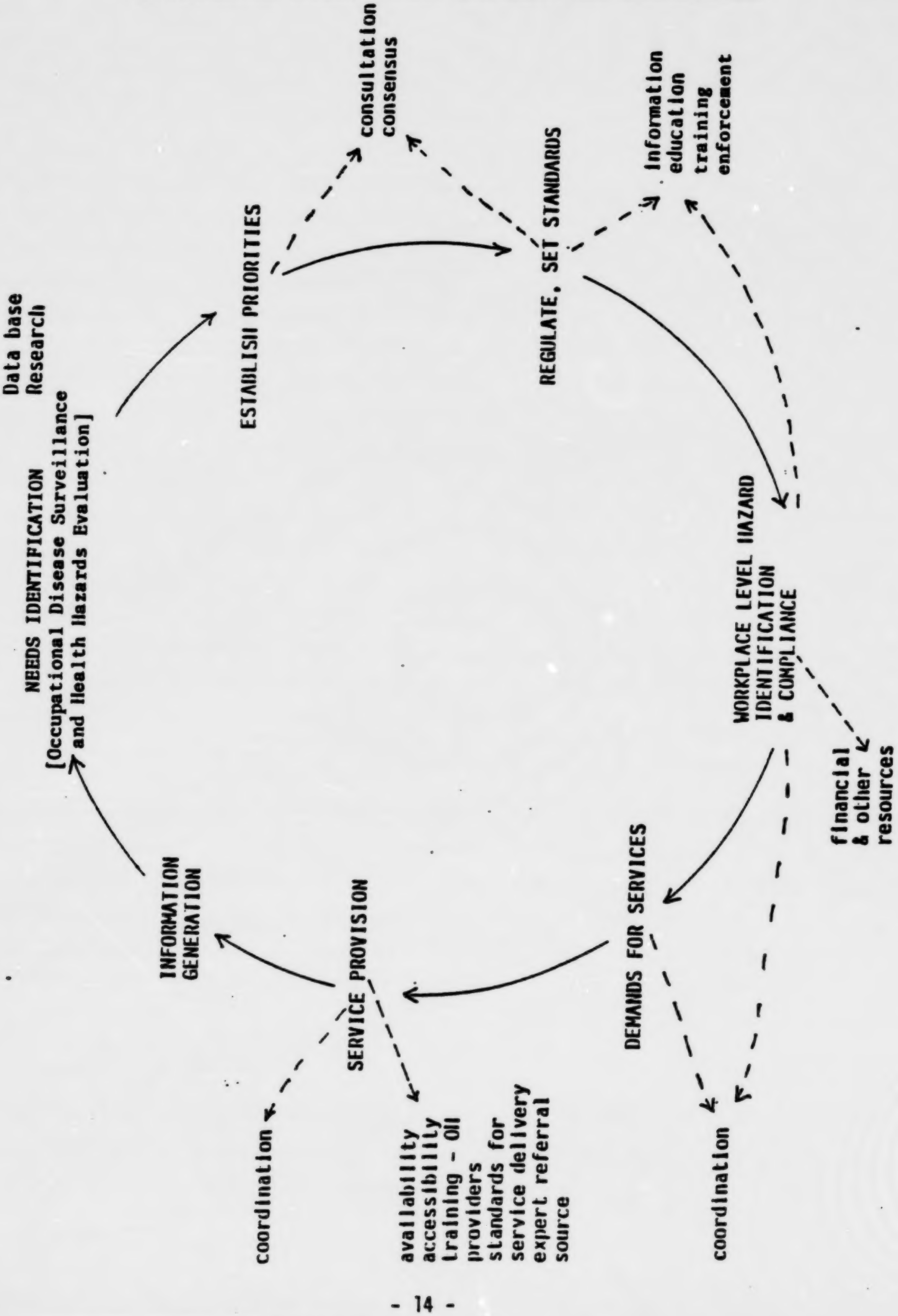
A prevention system for occupational health involves a number of key components, one of which is occupational health services delivery (outlined in Figure 1). Related roles and responsibilities for these components exist within and without Government. Since these components, to some extent, act in a synergistic way in achieving prevention goals, the provision of occupational health services cannot be considered in total isolation from other key components of the system.

For example, the need for and scope of appropriate occupational health services must relate to identified problems and priorities. The existence of health hazards in the workplace and resulting health outcomes must be assessed at a macro level so that regulatory policy and strategy can be appropriately identified and directed. This component, as shown in Figure 1, requires the development of a data base so that health hazard and occupational disease surveillance systems can be developed.

Another aspect illustrating interdependence of key components, is the fact that demand for occupational health services is influenced by various factors, including, for example, regulated requirements, enforcement strategies and

FIGURE 1

OH PREVENTION SYSTEM - BASIC COMPONENTS AND RELATED NEEDS


NEEDS IDENTIFICATION
[Occupational Disease Surveillance
and Health Hazards Evaluation]
Data base
Research
ESTABLISH PRIORITIES
consultation
consensus
REGULATE, SET STANDARDS
information
education
training
enforcement
WORKPLACE LEVEL HAZARD
IDENTIFICATION
& COMPLIANCE
financial
& other
resources
DEMANDS FOR SERVICES
coordination
SERVICE PROVISION
availability
accessibility
training - OH
providers
standards for
service delivery
expert referral
source
coordination
INFORMATION
GENERATION

provision of information, education and training. At the level of the workplace itself, needs assessment must also take place so that the extent of the problem, if any, can be accurately identified and assessed. This requires a degree of awareness about occupational health in general on the part of employers, workers and joint safety and health committees. Information generated from suitable data bases at the macro level can be disseminated in educational formats to raise awareness at this level.

Assuming that the need for appropriate occupational health services has been identified and that demand has been suitably stimulated, provision of services is still dependent upon the availability of trained occupational health professionals. In a perfect market situation, the growth of demand could be expected to stimulate provision of such professionals through increased training and through private sector activity. However, training occupational health professionals takes time and may need to be initiated in anticipation of increased demand levels. Further, demand must also be effective in order to stimulate private sector activity. The dominance of small workplaces in the Manitoba economy (see Chapter 8) suggests that demand may not be effective enough.

For these reasons, a number of key components, in addition to occupational health services themselves, are considered in the body of this Report.

3.2 ROLES AND RESPONSIBILITIES

Roles and responsibilities, as they relate to various key components, span a wide range of organizations within government and the wider public sector as well as the private sector. These roles are not always clear to the appropriate organizations or, in some cases, to other key players within the system. Figure 2 shows the range of organizations that play a role or affect key components of the system and thus could have a more clearly defined role.

FIGURE 2

ORGANIZATIONS PLAYING A ROLE IN OCCUPATIONAL HEALTH SERVICES

	ENVIRONMENT AND WORKPLACE SAFETY AND HEALTH	WCB	ADVISORY COUNCIL ON OH&S	HEALTH	UNIVERSITY	NFL OHC	MISC SERVICE PROVIDERS	EMPLOYERS/ ASSOCNS.	WORKERS/ T. UNIONS	J. S. & H. COMMITTEES
NEEDS IDENTIFICATION										
- O.D. Surveillance	P			P						
- H. Hazard Eval.	P									
- Research					P					
- Data Base	P	P		P		P	P			
REGULATORY POLICY										
- Est. Priorities	P									
- Regulate	C									
- Inspect/Enforce	C									
- Consultation			C							
TEACHING/EDUCATION										
- Of OH Profs.					P					
- Of Employers/Workers	C/P					P/C		C/P	C	P
- Of Community				P						
WORKPLACE HAZARD IDEN.										
- Hazard Iden./Assess.								C/P		P
- Compliance								C		P
COORDINATION										
- Of Information	P			P						
- Of Services and Providers	P			P						
OH SERVICE PROVISION										
- Environ. Monitoring	C					P	P			
- Clinical Diagnosis				C/P						
- Medical Monitoring				C/P		C	C/P			
- Educ./Training	C/P					C		P	P	
- Expert Advice/Info.	P					C/P	C/P			
- Records	P							P		

C - Current Active Role; P - Implied or Potential Role

An effective coordination function would help ensure that key players understand their respective roles within the prevention system and that proper information exchange takes place.

3.3 PUBLIC, ENVIRONMENTAL AND OCCUPATIONAL HEALTH

The Manitoba Government has legal responsibilities for public, environmental and occupational health and these are reflected in legislation and administrative functions (see Figure 3). In Manitoba, these responsibilities reside primarily with the Department of Health and the Department of Environment and Workplace Safety and Health.

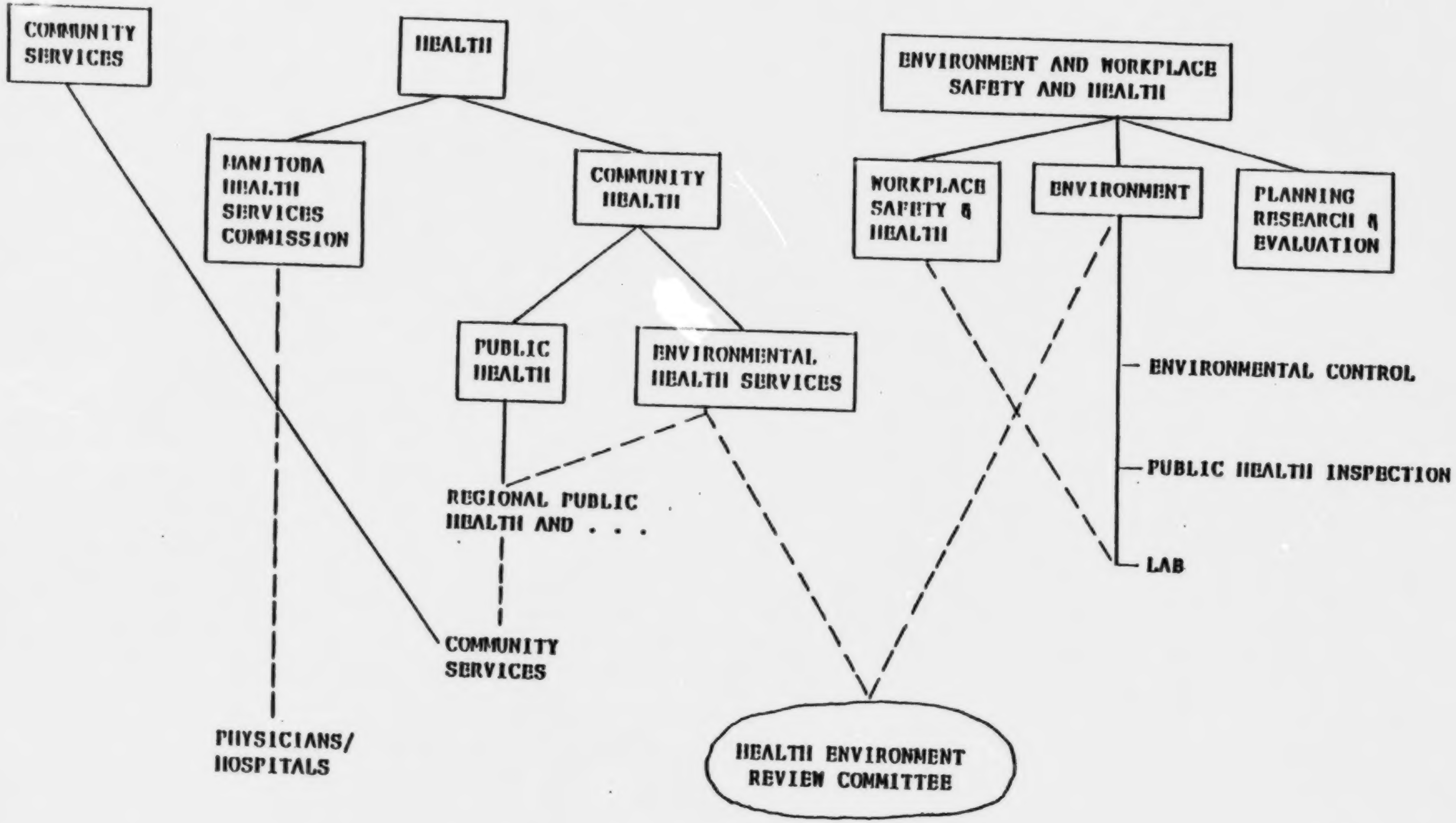
All these responsibilities have as their aim the prevention of disease and the promotion of health among the people of Manitoba. Occupational health responsibilities apply specifically to people at work, while public and environmental health responsibilities apply generally.

There are similarities and areas of overlap between these responsibilities. The causes of environmentally and occupationally related disease are often the same, for example, lead, noise and radiation. Toxic substances originating in workplaces may be the cause of health problems of workers in those workplaces as well as to members of the general public (e.g. mercury). The etiology of some diseases may relate to occupational and environmental factors. Similar skills (e.g. hazard identification and epidemiology) are used in all three fields of health prevention.

Prevention of disease and illness requires knowledge of causation as well as diagnosis. Thus, physicians providing primary care have a role to play in the process of preventing environmentally and occupationally related disease.

FIGURE 3

CURRENT GOVERNMENT ORGANIZATION FOR ENVIRONMENTAL, PUBLIC AND OCCUPATIONAL HEALTH


COMMUNITY SERVICES
HEALTH
ENVIRONMENT AND WORKPLACE SAFETY AND HEALTH
MANITOBA HEALTH SERVICES COMMISSION
COMMUNITY HEALTH
WORKPLACE SAFETY & HEALTH
ENVIRONMENT
PLANNING RESEARCH & EVALUATION
PUBLIC HEALTH
ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL CONTROL
PUBLIC HEALTH INSPECTION
REGIONAL PUBLIC HEALTH AND . . .
LAB
COMMUNITY SERVICES
PHYSICIANS/ HOSPITALS
HEALTH ENVIRONMENT REVIEW COMMITTEE

These areas of overlap suggest that regulatory policy and related organizations recognize the need for suitable information and resource sharing to ensure cost-effective program delivery. This need is in part recognized by the existence of the Federal/Provincial Advisory Committee on Environmental and Occupational Health.

Reviewed below are legal and administrative provisions which relate to the government's mandate for public, environmental and occupational health.

3.3.1 Public (Community Health) in Manitoba

Under the Public Health Act, the Minister of Health is responsible for the "supervision of all matters relating to the preservation of life and the health of the people of the Province, and of all matters relating to the prevention of injury to life and limb not specifically dealt with under some other Act of the Legislature." This includes making investigations regarding the causes of disease, ill health and death.[1] The scope of this mandate, although not clear,suggests some implied responsibility for occupational health. Regulations under the Act deal with x-ray safety, food establishments, sanitation, public swimming pools and barbershops.

Administration of the Public Health Act is split between the Department of Health and the Department of Environment and Workplace Safety and Health. Public Health Inspectors, appointed under the Public Health Act, work within the latter Department, whereas Medical Officers of Health are employed by the Department of Health. Public health inspection for the City of Winnipeg is the City's responsibility.

Community health services (including communicable disease control, audiological services, maternal and child health, health promotion, health education, community mental health, dental health and environmental health) are provided through eight regional health units (see Figure 4). Each regional unit also includes community-based social services for which the Department of Community Services is responsible. Thus, there is integration between community social and health services.

Medical Officers of Health: The duties of Medical Officers of Health include: development of a sustained program of general health education; keeping in readily available form, all statistics relating to the health of the community; and cooperation with other agencies in regard to the health and well-being of the people in the community.[2]

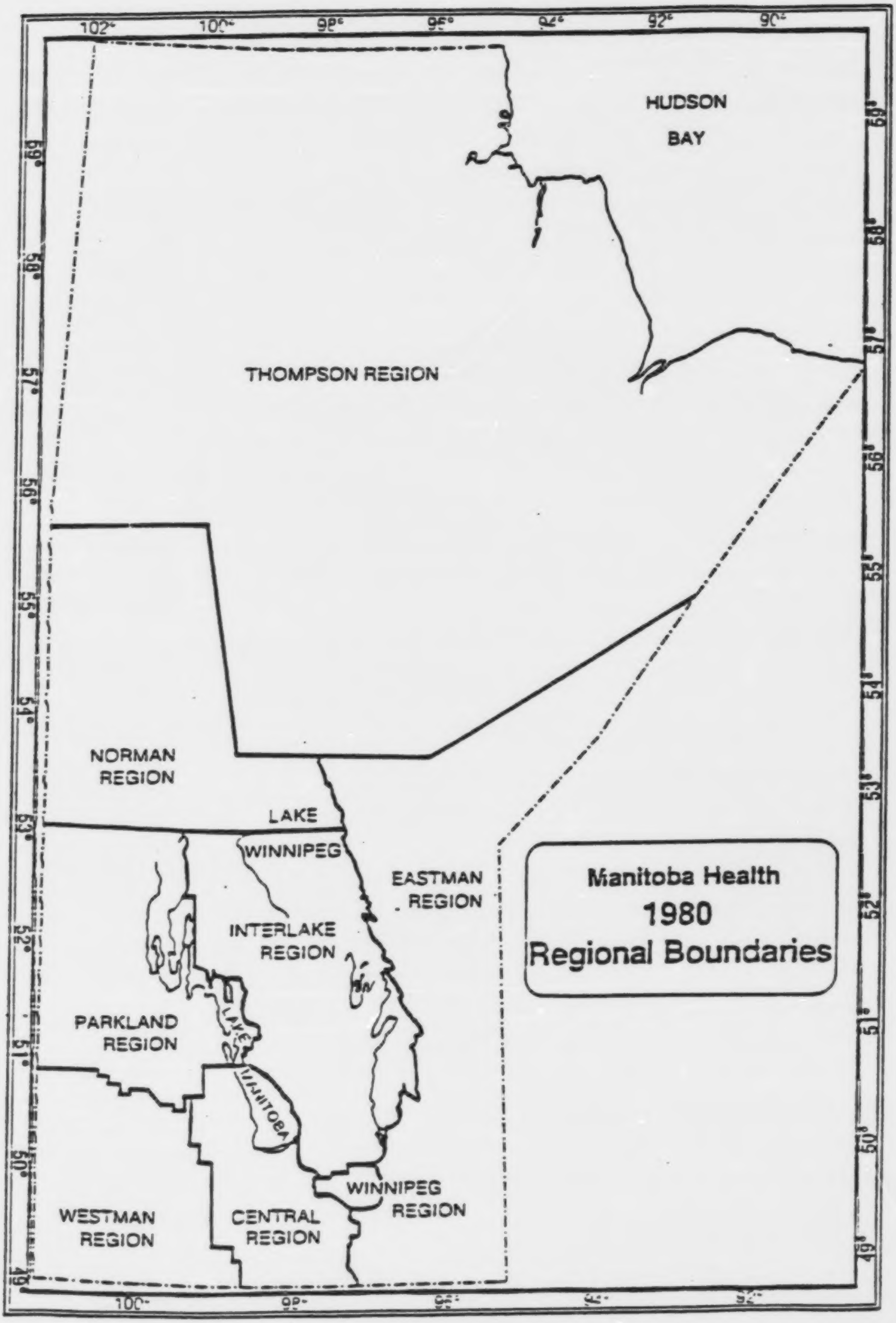
In practice, the role of the Medical Officer of Health has focused on communicable disease control. Regulations under the Public Health Act also require the notification of specified non-communicable diseases. Thus, physicians are required to report cancer cases on a form to be sent to the Central Cancer Registry. The inclusion of occupational histories on these forms would provide useful data for an occupational disease surveillance system. Medical Officers of Health could use the data to identify unusual incidences of cancer in their regions.

Public Health Nurses: The duties of public health nurses include the carrying out of a general health education program. This suggests a possible role for public health nurses in occupational health education.

Community Health Programs: These are the responsibility of the Community Health Section of the Department of Health. Some of these programs have potential relevance for occupational health.

An Environmental Health Services Section, staffed by a physician and an engineer, administers programs on, for example, dangerous goods, sewage disposal, and pesticides and provides consultation to the Clean Environment

FIGURE 4



Manitoba Health
1980
Regional Boundaries

102°
100°
98°
96°
94°
92°
90°
HUDSON
BAY
THOMPSON REGION
NORMAN
REGION
LAKE
WINNIPEG
EASTMAN
REGION
INTERLAKE
REGION
PARKLAND
REGION
LAKE
MANITOBA
WINNIPEG
REGION
WESTMAN
REGION
CENTRAL
REGION
60°
59°
58°
57°
56°
55°
54°
53°
52°
51°
50°
49°

Commission. The physician in this section also liaises with the Department of Environment and Workplace Safety and Health to ensure coordination between Community Health and Public Health Inspectors through the Health and Environment Review Committee. Currently, a physician employed in this section acts as the Chief Occupational Medical Officer for the Workplace Safety and Health Division.

The Office of Hearing Conservation plays a somewhat more direct role with regard to occupational health. Since the passing of the Hearing Regulation under the Workplace Safety and Health Act, this Office has played a major role in the training of certified industrial audiometric technicians. Audiologists are employed within each health unit and probably represent the major such resource in the Province. In 1984, a total of 1,851 audiological assessments were carried out for adults (of working age) and of these, 1,240 turned out to be confirmed hearing loss cases. This figure contrasts with only 94 Workers' Compensation Board accepted hearing loss cases in 1985. Figure 5 shows the breakdown of hearing conservation screenings, referrals and assessments by region carried out by the Department of Health in 1983/84.

3.3.2 Primary Health Care

The provision of primary health care (for this purpose, defined as meaning diagnosis and treatment) in Manitoba is considered here to the extent that it has some relevance to occupational health in general, and occupational health services in particular. Provision of health care facilities is the responsibility of the Manitoba Health Services Commission. Two aspects are considered here:

Community/family physicians: Given the very few occupational health physicians in the Province (see Chapter 10), it can be reasonably predicted that most workers suffering from an occupationally related disease are seen first by their family physicians. The importance of the role of physicians,

FIGURE 5

COMMUNITY HEALTH SERVICES

Office of Hearing Conservation, Screenings, Referrals and Assessments
By Region[1] — July 1, 1983 to June 30, 1984

Region	Pre-School Children (0 - 4 Years)		School Children[2] (5 - 17 Years)			Adults (18 - 64 Years)		Adults (65+ Years)	
	Referred for Audiological Assessment	Confirmed Hearing Loss	Total Number Screened	Referred for Audiological Assessment	Confirmed Hearing Loss	Referred for Audiological Assessment	Confirmed Hearing Loss	Referred for Audiological Assessment	Confirmed Hearing Loss
Central	132	29	7,587	793	390	173	101	109	76
Eastman[3]	92	34	7,726	835	313	259	167	130	118
Interlake	133	56	5,377	592	282	148	85	255	233
Norman	318	120	2,127	634	198	280	169	109	81
Parkland	110	53	5,672	822	294	208	130	172	165
Thompson[4]	—	—	—	—	—	—	—	—	—
Westman	540	216	9,162	2,006	692	423	311	327	326
Winnipeg[3]	126	52	5,925	672	311	360	277	412	394
TOTAL[5]	1,451	560	43,576	6,354	2,480	1,851	1,240	1,514	1,393

[1] Includes data only from Seven Oaks and Deer Lodge areas of Winnipeg Region.

[2] Grades K-2, 6, 9, 12 and Special Referrals.

[3] Position staffed for partial year only.

[4] No data due to staff vacancy.

[5] Excludes Thompson and Eastman in partial.

including specialists, in the identification of occupationally related disease cannot therefore be overstated. An article in the American Journal of Public Health [3] in 1983 stated: "Effective control of occupational disease cannot be successful without the active collaboration of those practicing physicians who are responsible for suspecting and diagnosing occupational disease in their patients." The article went on to suggest that there was need for greater attention to occupational health training in medical training generally.

Community Health Clinics: A number of community health clinics, provided and funded through the Manitoba Health Services Commission, exist in Manitoba. They are considered here because the underlying concept of such clinics suggests a possible role in occupational health service delivery.

There are 11 such clinics in Manitoba, six of which are based in Winnipeg. Manitoba Health Services Commission defines the purpose of such clinics in these terms: "Through a multi-disciplinary approach, to raise the health level of a given population and to improve the social conditions of individuals and the community".[4] Core programs offered by such clinics are: primary health care with a multi-disciplinary approach, counselling and outreach. Staff are employed on a salaried basis and include physicians, nurses and social workers.

In practice, it is only the clinics in Winnipeg which offer social and outreach programs to any great extent. If such clinics were to offer any type of occupational health service, they would, undoubtedly, require additional staff and certainly extensive training for existing staff. Widescale use of such clinics for the provision of occupational health services is probably not feasible at the present time, particularly as needs for occupational health services among their target populations would have to be identified clearly. It might be useful for those involved in counselling to be aware of suitable referral sources for clients with an occupational health concern. However, the use of community health clinics for the provision of some occupational health services may become more feasible in the future, depending upon future policy directions for such clinics in the Province.

3.3.3 Environment

Environmental Control Services and Environmental Management Services are contained within the Department of Environment and Workplace Safety and Health. Its first annual report as a combined environment and workplace Department recognized the related nature of these two mandates in stating: "the Province's organizational and operational commitment to an integrated, preventive approach to environmental and workplace challenges has entered a new and important phase in Manitoba's history".[5]

The mandate of the Department's Environmental Management Division is to administer and enforce the Clean Environment Act and its regulations; orders of the Clean Environment Commission; regulations under the Public Health Act; and the Dangerous Goods Handling and Transportation Act and its regulations. There are approximately 46 Environment Officers employed in the Division.

Public Health Inspection: Public Health Inspectors employed by the Department of Environment and Workplace Safety and Health (approximately 40) enforce some 22 regulations under the Public Health Act in areas outside Winnipeg. (The City of Winnipeg currently employs 18 Public Health Inspectors for public health inspection in Winnipeg.)

The regulations they enforce may be roughly classified as those which deal with (a) food inspection and (b) housing, sanitation and water supplies. (See Figure 6 for a list of these regulations.) Some of these regulations span worker health as well as public health in general, for example, the X-Ray Safety regulation and the regulation dealing with industrial and construction camps. These and other reasons suggest there may be a case for an integrated occupational and public health inspection function.

3.3.4 Workplace Safety and Health

The Workplace Safety and Health Division administers and enforces the Workplace Safety and Health Act and its regulations. In addition to inspection and enforcement, it also provides some educational and industrial hygiene services to Manitoba workers and workplaces. It is divided into four main sections: Safety and Health Inspections; Mines Inspections; Educational Services; and Industrial Hygiene. Inspection and enforcement is carried out mainly by Safety and Health Officers in Industrial, Construction and Mines Inspection Sections. There are 22 Safety and Health Officers and nine Mine Inspectors. Staff employed in Industrial Hygiene are also legally empowered to issue orders under the Act and sometimes do so. There is not therefore a clear cut organizational distinction between enforcement and services. Comments made during the consultation workshops for this Study indicate that this is a perceived concern of client groups.

The position of Chief Occupational Medical Officer or Occupational Medical Consultant has been organizationally separate from these four main sections. The last occupational health nurse employed by the Division reported to the Occupational Medical Consultant and then to the supervisor, Industrial Hygiene Section.

Discussions with previous incumbents of these positions and other members of the Division indicate that the roles of the Chief Occupational Medical Officer, Occupational Medical Consultant, and occupational health nurse were not well understood within the Division. (The legal role of the Chief Occupational Medical Officer is commented on in more detail in Chapter 6.) This may have been due to ill-defined job descriptions or, perhaps, to the lack of a clear multi-disciplinary approach to occupational health.

FIGURE 6

REGULATIONS UNDER THE PUBLIC HEALTH ACT

REGULATION NUMBER	SUBJECT OF REGULATION
Reg. No. 204/83	Food and Food Handling Establishments
Reg. No. 207/79	X-Ray Safety
Reg. No. P210-R7	Ambulance Services
Reg. No. P210-R6	Care Facilities (for the aged, private boarding houses, etc.)
Reg. No. P210-R5	Industrial and Construction Camps, Hotels, Bedding, Stuffed Articles, Barbershops and Hairdressing Establishments, etc.
Reg. No. P210-R3	Sanitation (including waste disposal, water sources and supplies, water works, sewerage and sewage disposal, dwellings and buildings, pest control, swimming pools, recreational camps, etc.)
Reg. No. P210-R2	Disease control - notifiable diseases.

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CHAPTER 4

SCOPE AND FUNCTIONS OF OCCUPATIONAL HEALTH SERVICES

4.1 INTRODUCTION

In practice, occupational health services may consist of some or all of a range of functions relating to (a) working environment hazard surveillance and control and (b) worker health surveillance. Generally, the first category is considered to be primary prevention and the second, secondary prevention. The extent to which functions in both categories are included in occupational health services varies. In Sweden, for example, services are well balanced between both types of prevention. In Canada, this has not generally been the case (with the exception of Quebec). Health surveillance services are often provided quite separately from hazard assessment services. This separation can and does pose problems in ensuring a suitable balance between primary and secondary prevention, as illustrated by the recent lead exposure problem in Manitoba.

In 1985, the International Labour Organization (ILO) published a new Convention on Occupational Health Services, which replaced a number of older Conventions which dated back to the 1950's. Member countries, of which Canada is one, were asked to adopt ILO conventions and apply them through appropriate regulatory or other initiatives. The decision to adopt such conventions in Canada has in the past proved difficult, in part because of the necessity to obtain jurisdiction by jurisdiction agreement. Whether or not this new ILO Convention is eventually adopted by the Canadian government, it should nevertheless be considered a source of international guidelines on the provision and delivery of occupational health services. For this reason, major provisions of the Convention are outlined below, particularly as they relate to appropriate scope and functions. (A complete copy of the Convention is provided in Appendix IX.)

4.2 ILO CONVENTION ON OCCUPATIONAL HEALTH SERVICES

The 1985 Convention is supplemented by a set of recommendations. Together they deal with delivery models, scope and functions, ethics and operating principles.

4.2.1 Scope and Functions

The Convention outlines a range of functions, some or all of which should be provided depending on the needs of particular organizations and in consultation with workers. These are:

Workplace Surveillance Related Functions:

- Identification and assessment of workplace health hazard risks;
- Surveillance of factors in working environment and working practices which may affect workers' health, including sanitary installations, canteens and housing (where provided by employers);
- Advice on planning and organization of work, including design of workplaces and on choice, maintenance and condition of machinery and other equipment and substances used in work;
- Participation in development of programs for the improvement of working practices and in testing and evaluation of health aspects of new equipment;
- Advice on occupational health, safety and hygiene and on ergonomics and on protective equipment;
- Promoting the adaptation of work to the worker; and
- Collaborating in provision of information, training and education in occupational health, industrial hygiene and protective equipment.

Functions Relating to Worker Health Surveillance:

- Surveillance of workers' health in relation to work;
- Provision of first aid and emergency treatment; and
- Participation in analysis of occupational accidents and illnesses.

It can be seen that the ILO has placed emphasis on the need for balance between primary and secondary prevention strategies.

4.2.2 Delivery Models

The Convention allows for considerable flexibility in deciding upon suitable delivery models, suggesting, for example, provision of in-house services, provision through public authorities, social security (health) institutions or organized by a group of undertakings. However, the recommendation suggests that certain principles apply to the organization of services, for example:

- Employers, workers and their representatives should participate on an equitable basis in implementation and organization of services; and
- Employers, workers, representatives and safety and health committees should participate in decisions affecting organization and operation of services, including those relating to employment of personnel and program planning.

4.2.3 Ethics and Operating Principles

The Convention provides guidance on a number of issues concerning the ethics and operating procedures of occupational health services, for example:

- The activities and functions provided by occupational health services should be appropriate and specific to the undertaking they service, taking into account the nature of health hazards and problems specific to the industrial sectors represented;
- Occupational health services should be staffed to reflect the multi-disciplinary nature of occupational health, including an occupational physician, hygienist, nurse and ergonomist;
- Professional independence of occupational health professionals from employers, workers and their representatives should be safeguarded;
- Workers should not be required to pay for occupational health services they receive and such services should be provided during working hours; and
- Absenteeism control should not be a function undertaken by those providing occupational health services.

This Convention and its accompanying recommendation should provide a valuable reference source for the development of codes of practice, standards and guidelines concerning occupational health services as recommended in Part C of this Report.

4.3 DISCIPLINES INVOLVED IN OCCUPATIONAL HEALTH SERVICE DELIVERY

An occupational health service which aims to provide a comprehensive range of services for both primary and secondary prevention, requires access to a wide range of disciplines and skills. These include: industrial hygiene, occupational health nursing, occupational medicine, safety and ventilation engineering, ergonomics, psychology and epidemiology. This Section considers the current status of the three major disciplines involved--occupational health nursing, occupational medicine and industrial hygiene with regard to their professional standing in Canada today.

There is evidence of changing directions in the standing and professional requirements for all three disciplines in Canada at the present time, reflecting growing awareness of the broadening scope of their respective roles in occupational health service delivery. It is to be hoped that each profession, in reviewing educational and training requirements, will emphasize the multi-disciplinary nature of occupational health programs and the need for constructive interaction with other disciplines.

Another challenge facing both occupational nursing and occupational medicine is the potential conflict often faced by practicing professionals between loyalty to their worker patients and loyalty to their employers. To a lesser extent, this problem may also face industrial hygienists. Professional codes of ethics must address and clarify this issue.

4.3.1 Occupational Health Nursing

In recent years, the scope of occupational health nursing has expanded well beyond the traditional "industrial nurse" who provided mainly first aid. The primary goal of occupational nursing is now to "assist the worker obtain and maintain optimal physical and psychological functioning". [1] This goal includes both specific clinical assessment of individual workers as well as the assessment of the health of workers as groups using community health principles. These functions require a wide range of skills and knowledge beyond those normally associated with nursing practice in hospital settings.

Practising occupational health nurses almost certainly constitute the largest pool of occupational health professionals in Canada (some 4,000 across Canada in 1984). [2] This situation is also reflected in Manitoba (see Chapter 10). The vast majority of nurses practising in occupational health settings are registered nurses having graduated from a hospital based diploma program or with a four year baccalaureate degree in nursing. Unfortunately, most basic nursing curricula neglect occupational health. Thus, most nurses entering the field of occupational health must identify continuing education possibilities. In Manitoba, such opportunities include a continuing education certificate program run by the Red River Community College (currently under review) and the Certificate Program in Occupational Health and Safety provided by the University of Manitoba. Providers of continuing education for occupational health nurses should ensure that the curricula include knowledge and skills related to primary as well as secondary prevention.

In 1981, the Canadian Council for Occupational Health Nurses was incorporated as a voluntary, non-profit corporation with the object of establishing standards for certification of occupational health nurses. The resulting program involves both experience and examination requirements, but has no legal standing, nor does it attempt to restrict use of the title "occupational health nurse" only to those who have obtained such certification. As has been pointed out in Chapter 10, few have so far obtained certification in Manitoba, although a significant number are planning to do so.

The Manitoba Occupational Health Nurses Interest Group, an interest group of the Manitoba Association of Registered Nurses, was first established in 1942. [3] It provides a forum for discussion of issues in occupational health and safety and a network for occupational health nurses to interact with their colleagues. This is particularly important given that many practising occupational health nurses work in situations in which they are isolated from other occupational health nurses, and indeed, in many cases, also from other occupational health professionals. The Interest Group is currently working on the development of standards for occupational health nursing practices in Manitoba. In doing so, they will no doubt consider the issues discussed in this Report, for example, those discussed in Chapter 5.

The demand for occupational health nurses is likely to increase in coming years as awareness about occupational health concerns grows in Manitoba workplaces. In reviewing the role and consequent educational and training needs of occupational health nurses, therefore, the nursing profession should ensure that primary prevention aspects, for example, environmental assessment techniques, control technology including ergonomics are given suitable emphasis. Given scarce availability of specialist resources in Manitoba, the occupational health nurse should be in a position to provide a reasonably comprehensive range of services to workplaces, particularly those in which he/she may be the only available resource. Health promotion programs, while serving an important role in society, should not take the place of workplace health hazard surveillance and worker health surveillance programs, which should be the first priority for occupational health nurses.

4.3.2 Occupational Medicine

The practice of occupational medicine has long history, especially in Europe. [4] Yet, the medical profession in Canada has been slow to recognize occupational medicine as a separate specialty. This move will now stimulate the creation of programs in occupational medicine in Canadian universities. This provides an opportunity for the universities and the medical profession to ensure that such programs reflect current needs and thinking in the area of occupational health. In particular, such programs need to focus on primary prevention as far as possible and should also reflect the need for recognition of, and liaison with, other disciplines involved in prevention strategies.

A number of occupational health programs have been established in various Canadian universities, including ones in Quebec, Ontario and Alberta. For example, an Occupational Health Program has been established by the Department of Health Services Administration and Community Medicine within the University of Alberta's Faculty of Medicine. The Program is funded through a Tri-partite Occupational Health Fund (contributions from large employers) and the Alberta Government. Functions of the Program include research and teaching and consulting services. Services are provided on a fee-for-service cost recovery basis. It is interesting to note that program staffing reflects the disciplines of occupational medicine, occupational health nursing and industrial hygiene. [5]

The Canadian Board of Occupational Medicine was established as a Certification Board. Certification is granted to physicians with at specified minimum periods of training and/or field experience in occupational health (including two years of clinical residency). Applicants must also submit a thesis and defend this in an oral examination before the Board. Very few physicians in Manitoba have obtained this Ceritification, although several others have qualifications in occupational medicine obtained outside Canada. To date, in Canada, residencies in the field of community medicine have provided the most appropriate educational route for occupational medicine.

Currently, moves are afoot within the Faculty of Medicine at the University of Manitoba to establish an occupational health program. This is likely to be established by the Division of Community and Northern Medicine and the Department of Social and Preventive Medicine. When this happens, Manitoba will, in time, be provided with an important resource in the field of occupational health.

The recognition of occupational medicine as a speciality in Canada will provide a focus for occupational medicine. It provides the medical profession in Canada with the opportunity to review codes of ethics, standards and guidelines relating to the practice of medicine and ensure that these reflect modern practice of occupational medicine and address areas of concern such as those mentioned in this report (see Chapter 5).

4.3.3 Industrial Hygiene

At the present time, there is no Canadian professional organization for industrial hygienists. This situation is changing and moves are currently underway to establish a Canadian Board of Industrial Hygiene which is about to be incorporated federally. Initially, this Board will aim to establish a formal registry of practicing industrial hygienists in Canada. Eventually, the Board will establish an examination and certification process.

At the present time, industrial hygienists must look to the United States for professional affiliation and certification. The major United States professional association is the American Industrial Hygiene Association. Membership in this body is not dependent upon formal qualifications or certification. A local section of this Association has recently been established in Manitoba.

The American Conference of Governmental Industrial Hygienists (ACGIH) is a professional association for government employed industrial hygienists. It is this Association which is responsible for the development and publication of Threshold Limit Values. [6]

The American Board of Industrial Hygiene is a Certification Body. It sets examination and criteria experience for certification. Applicants for certification writing the final examination must have at least five years in the field and a degree in physical science, engineering or medicine. Industrial hygienists who have passed the Board's examinations are entitled to membership of the American Academy of Industrial Hygiene.

Post-graduate specialist training in industrial hygiene is not available in Manitoba although it is in other parts of the country, for example, at the University of Toronto. It is doubtful if the prospects for full-time employment in industrial hygiene are sufficient in Manitoba to justify provision of such post-graduate training. As an alternative, optional courses in industrial hygiene could be made available for undergraduate students in medicine, engineering, chemistry and perhaps, also management studies. The Department of Education might consider the feasibility of developing basic course material which could be used in any of these faculties.

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CHAPTER 5

OCCUPATIONAL HEALTH SERVICES DELIVERY - ISSUES AND CONCERNS

5.1 INTRODUCTION

In recent years, there has been a proliferation of reports and articles dealing with issues and concerns about the scope and practice of occupational medical programs. Indeed, it may not be an exaggeration to argue, as does Samuels [1], that in some ways we may be reaching a crisis point. Certainly, it would be difficult to argue that there is not now a critical need to review the basis for these concerns and to develop current guidelines for the benefit of workers, unions, employers and occupational health professionals themselves. To some extent, such guidelines are beginning to emerge. For example, the Canadian Centre [2] recently held a conference on Occupational Medicine [3] brought together union, management and occupational health professionals in an attempt to reach a consensus view on such guidelines. In 1985, the Energy and Chemical Workers' Union held a similarly constituted conference on medical surveillance. As well, a Health and Welfare Canada task force report on the health surveillance of workers has recently been published.[4] The Canadian Labour Congress has recently developed suggested guidelines on Medical Surveillance. The existence of these various guidelines does not mean that a general consensus on all issues has emerged.

Occupational medical programs are not a new phenomenon in Canada or elsewhere. Traditionally, in Canada, such programs have tended to be provided by relatively large companies and have included in-house full time physicians and/or nurses. Such programs included functions such as: pre-employment medical screening, general health promotion, assessing fitness to return to work, dealing with workers' compensation claims, emergency and other treatment, meeting pension plan requirements and/or absenteeism control. Biological monitoring in occupational medical programs has tended to become more common in recent years, partly as a result of increased regulatory attention to the control of toxic substances and other health hazards in the workplace (see Chapter 6). The use of genetic screening and genetic monitoring as tools of occupational medicine is even newer.

To understand the basis for the present controversy in occupational medicine, it is useful to review the purposes and end results of such programs. Ashford [5] suggests that the purposes of human monitoring are diverse and at times conflicting. The same may perhaps be said of medical programs generally. Pre-employment medical screening, for example, may serve an employer's purpose of not employing people who may be "hypersensitive" to a particular toxin. To the worker, on the other hand, this may be seen as discriminatory and the denial of a job. It may also be perceived as an alternative to instituting what may be costly exposure controls. Since medical screening or monitoring may affect workers' benefits or job security, it would be surprising if workers and their representatives were not increasingly concerned about the purposes and uses of medical screening/monitoring.[6] There is concern not only about the uses to which personal medical information is put, but also about the validity and predictive value of tests used in health screening.

There is evidence that the value and need for various medical screening and biological monitoring procedures are being challenged.[7] Questions are being raised about: the human rights implications of medical examinations; an individual's right to choose his or her own physician and the right to privacy of personal medical information; whether or not workers should be required to undergo specified medical examinations and tests; the validity of various biological monitoring procedures and their benefit to the worker; and the relationship of worker health surveillance to environmental surveillance. The perceived independence of occupational health professionals is an important related issue.

Most of these issues were the subject of discussion during various of the study consultation workshops, [See Appendix V] in particular, the perceived independence of the occupational physicians and nurses, the role of the joint safety and health committee in occupational health service delivery, the relationship between human and environmental monitoring and the need for confidentiality of medical information.

These issues may apply to occupational health services wherever provided and whether provided on a voluntary or legislated basis.

5.2 ENVIRONMENTAL VS. WORKER SURVEILLANCE

Few would argue that primary prevention - identifying potential exposure at its source in the workplace and taking steps to control such exposure - must take precedence over monitoring the worker to identify signs of absorption. Indeed the recent Task Force Report referred to above is quite definite on this point when it says: "It is emphasized that medical examinations form only a part of preventive programs in industry. Under no circumstances can they be used as an alternative to environmental control."[8] This point was underlined many times by various interest groups who attended the consultation workshops. Yet, there is still concern that human monitoring will be used as a cheap alternative to environmental monitoring.[9]

It must be recognized that medical surveillance can play an important complementary role to environmental monitoring since: some health concerns have multiple etiologies of which only one may be work related; there are many chemical substances for which firm toxicological data are not available; some workers may be susceptible to levels of exposure to a substance which are lower than recognized permissable limits; the fact that medical surveillance and monitoring can play a significant role in epidemiological research. Dr. Alan Kraut pointed out in a letter to the Study Director that: "Environmental monitoring assumes that the level set is safe. There have been many occasions in history where a level initially thought to be safe was later found not to be so. Only through vigilant medical follow up can these problems be identified." [10]

It seems apparent from surveys conducted for this study [11] that occupational medical services are more generally available than environmental monitoring services. This does not necessarily mean that appropriate medical services are available to all who need them. It may suggest, however, that physicians and nurses are available, even if not specialists in occupational medicine, whereas occupational environmental monitoring services are not. If human and environmental monitoring play complementary roles in occupational health programs, it follows that there should be close organizational links between them. Unfortunately, this does not appear to be the case in Manitoba. In part, the reason for this may be that in many cases, occupational medical services are provided on a part-time basis by community physicians outside the workplace who are not working in the context of a comprehensive occupational health service. To some extent, this might be overcome by encouraging such physicians to report to joint safety and health committees about their programs and findings (without necessarily divulging personal medical information). Occupational health nurses, it would appear from the survey [12], often feel that they are unnecessarily separated from related functions--such as the safety department--in their workplaces.

5.3 INDEPENDENCE OF OCCUPATIONAL HEALTH PROFESSIONALS

Much has been written about the so-called "company doctor". Occupational physicians employed by companies have not always been confidently regarded by workers and their representatives. As Gordon Atherley said, "Some workers and unions have an abiding mistrust in company physicians. Such practitioners are perceived as owing their allegiance to the company, and not to the worker." [13] Whether or not these impressions are accurate, the perceptions are real enough.

In Manitoba, with the exception of the Manitoba Federation of Labour, Occupational Health Clinic and possibly the Victoria Health Guard [14], physicians and nurses who carry out occupational health services are employed directly by employers on a full- time, part-time or contract basis. In many

European countries, including Sweden, it is an accepted practice for large organizations to employ their own occupational health physicians. However, multi-group occupational health clinics usually serve smaller workplaces and these usually have worker/employer advisory boards or councils.[15] Manitoba occupational health and safety legislation, in line with the rest of Canada, encourages a joint worker/manager approach to the identification and control of hazards. While recognizing the right of employers to employ occupational health professionals to advise them on the carrying out of their legal responsibilities for occupational health, it is likely that workers would be considerably less mistrustful of company employed occupational health professionals if joint safety and health committees were to be consulted about the selection of such professionals and were entitled to regular reports from them. Such an approach is recommended in several of the written briefs submitted by labour groups for this study, including, for example, that submitted by a representative of the Winnipeg Police Association.

The right of individuals to choose their own physician is a related issue. In common law, a patient generally has this right (with certain statutory exceptions) but this has not always been the case for workers. In study consultation workshops, some workers expressed the view that they would generally prefer to visit their own physician for occupationally related medical tests or examinations. The advantages and disadvantages of whether workers should choose their own physicians or be obliged to use a designated physician have been thoroughly examined by the Ontario Advisory Council [16]. This Council supports the right of an employee to choose his or her own physician, except where public health may be in jeopardy, but suggests the appointment of a coordinating physician where administrative problems arise as a result. Currently in Manitoba, silica exposed workers are required to submit to examinations by a Minister-appointed physician under the silica regulation [17].

A more participatory approach to the selection of physicians and nurses and to the conduct of their programs may result in an increased level of trust by workers and reduce the number of workers who prefer to use their own family physicians. Where they do so wish, a third party coordinating role would obviously be necessary.

It is important to recognize that given Manitoba's geography and population distribution, the notion of choice in the selection of physicians is not a practical reality for many workers in small remote communities, even in primary care. Dr. Warren [18], in a letter to the Study Director, emphasized this point and suggested that, in the area of occupational health, there will always be a need for a strong centre in Winnipeg, providing backup resources to the more general medical services available in communities outside Winnipeg.

5.4 OCCUPATIONAL MEDICAL TESTS - MANDATORY OR VOLUNTARY?

Generally patients cannot be forced to undergo medical tests or treatment against their will. It is a breach of common law to carry out a medical procedure without consent. There are certain exceptions to this. For example, Public Health legislation generally requires people to undergo specified examinations as part of communicable disease control. Under Manitoba's Workplace Safety and Health Act, workers must submit to certain medical tests under various regulations (see Chapter 6). Where there is such a legal duty, then failure to submit may result in a prosecution. Even where there is no such legal duty, employers may require workers to undergo certain tests so that it becomes a contractual obligation, and the worker who refuses may be liable to disciplinary action.

Clearly, there are circumstances in which mandatory monitoring has been justified. One example would be where the existence of disease or disability may be harmful to other workers. Thus, health care workers are often required to undergo tests for tuberculosis. Another example might be where environmental monitoring is not effective in identifying harmful exposures. In this latter circumstance, both employer and employee have an interest in medical monitoring. From the employer's point of view, identifying signs of exposure at an early stage may avoid a compensation case; from the employee's point of view, removal from exposure may prevent disease or illness occurring.

On the other hand, there are cases where it would be difficult to justify mandatory monitoring, for example, where the validity of the test or its degree of precision in identifying either the presence of a toxic substance or a related health effect is in question.

At the Canadian Centre Conference mentioned above, the general view expressed was that mandatory monitoring was only justified where other people's health or safety might be jeopardized, or where environmental monitoring alone was not always effective in identifying harmful levels of exposure. In both cases, tests of validity should be applied. A view expressed by Manitoba labour groups at a study consultation workshop was that mandatory monitoring would be accepted in certain cases if:

- Workers had the right to choose their own physician;
- Joint safety and health committees were involved in the decision; and
- General results were reported back to the joint committee, but without divulging the identity of particular workers.

However, a more formally expressed labour view is that medical tests, without exception, should not be mandatory.

The Ontario Advisory Council Report mentioned above suggests that a specific medical procedure should only be mandatory where it can be demonstrated that there are "cogent and overriding reasons why workers should be required to undergo the procedure". Criteria cited included: identifying who is at risk as a consequence of the worker's medical condition; the nature and degree of the risk; and whether or not biological monitoring is the only method of monitoring a worker's exposure to a toxic substance.

If certain occupationally related medical procedures are to be made mandatory for the worker, then the organizational situation in which they are conducted becomes important.

For example, it is important that workers are fully informed about the medical procedures, the reasons for them and what consequences may follow if the tests produce positive results. Confidentiality of personal medical information is equally important. The right of the joint safety and health committee to be involved in the program implementation and in reviewing general results would also help allay fear and suspicion.

5.5 HUMAN RIGHTS

Pre-employment medical examinations and tests have several purposes, including: determining a worker's physical capacity to perform the job; identifying medical conditions which may prevent the worker carrying out the job safely for him or herself or other workers; facilitating the placement of handicapped workers; and providing baseline data against which future illness or disability can be measured. Further, the ILO Convention [19] highlights the role of an occupational health service in adapting work to the needs of workers and this suggests another purpose for pre-employment medical examinations.

However, pre-placement medicals raise the possibility of violations of human rights under the Provincial Code or under the Canadian Charter of Rights and Freedoms. This Charter of Rights states that: [Section 15(1)] - "Every individual is equal before and under the law and has the right to the equal protection and benefit of the law without discrimination and, in particular, without discrimination based on race, national or ethnic origin, colour, religion, sex, age, or mental or physical disability". Under the Manitoba Human Rights Code, discrimination on the grounds of physical or mental disability is lawful only if the disability relates to a bona fide occupational requirement ("a reasonable disqualification"). The Manitoba Human Rights Commission suggest the following two guidelines in determining this: "Would the handicap create a hazard to the safety or health of the individual, other employees, clients or customers?" and "Would the handicap preclude the person from satisfactorily performing the duties of the job?"[20]. Thus pre-placement medical examinations or questionnaires should not include conditions which are unrelated to the job requirements, unless the information is kept completely confidential from the employer.

Inevitably there are some grey areas concerning human rights issues as they affect pre-placement medical screening. For example, is it discrimination not to employ someone who is identified during such screening as being particularly susceptible to a toxic substance which is present in the prospective workplace? The developing knowledge about genetics and the application of that knowledge in medical screening will make the development of human rights guidelines in this area more urgent. Interestingly, the Economist recently contained a short article about the use of genetic screening in which it had this to say: "But the purpose of such tests is prevention, not ghoulish prediction . . . that is an essential restraint, for it is hard to see how anybody can benefit from learning that he is susceptible to an unstoppable disease."[21]

5.6 ETHICS OF MEDICAL/BIOLOGICAL MONITORING

Questions about the role of medical and biological monitoring in occupational health prevention programs are resulting in the development of criteria and guidelines about the use of such procedures. Clearly, to serve a useful purpose in prevention programs, medical tests must be scientifically valid and result in some benefit to the workers undergoing them, either individually or collectively.

There is, for example, some benefit to workers if: a disease or illness can be identified at a treatable stage; if signs of exposure are identified before illness or disability results so that the worker can be removed from exposure; or, collectively, if medical monitoring produces evidence of the work relatedness of a disease or illness.

With these points in mind, the Health Surveillance Task Force Report [22] recommends that three criteria be applied in deciding whether or not to use particular medical monitoring procedures:

- Does the manoeuver benefit the individual worker? The term "benefit" here includes diagnosis at a treatable stage as well as the right to claim workers' compensation.
- Does the manoeuver have the potential for harm?
- Does the manoeuver provide valid information concerning the health of groups of workers?

Using these criteria, the Task Force reviewed a range of medical procedures used for occupational reasons and coded them according to whether their use was recommended or not recommended and to what degree. Thus, in the case of silicosis exposed workers, chest x-rays were strongly recommended initially and periodically every two or three years.

The Ontario Advisory Council in its report [23] sets out criteria (based on World Health Organization documents on mass health screening and on the use of biological monitoring in the workplace) which it recommends should be used to classify biomedical surveillance procedures. Classifications deal with whether or not procedures must be offered to workers, may be offered and whether or not they should be mandatory for workers.

In Manitoba, policy guidance on the use of biological and other medical monitoring procedures is clearly now required. Ongoing guidance will be required as new biological and genetic tests become available.

5.7 CONFIDENTIALITY OF MEDICAL INFORMATION

Assurance of confidentiality of medical information by physicians and other health professionals is an important aspect of the doctor/patient relationship. Nurses and physicians are generally under professional ethical obligations to maintain such confidentiality. In the employment situation, however, application of this obligation has not always been particularly clear as was pointed out in the Krever Commission Report on the Confidentiality of Medical Information.[24] Further, during one of the consultation workshops, it became apparent that nurses are not entirely sure about their duty, or their right to keep medical records confidential from their employer. This issue needs to be clarified for all concerned.

Health and safety legislation in some provinces has included specific medical confidentiality requirements. Ontario's designated substance regulations, for example, make it clear that physicians may not disclose the results of medical examinations and tests to employers but may advise the employer on an employee's fitness to work and whether or not they should be removed from exposure. The Canadian Medical Association's Guidelines on Occupational Health Services are somewhat vague on this question. While they suggest that confidential medical information should not be divulged without the worker's consent, they do not deal with what type of advice should be provided to the employer by the physician.

It would be hard to argue that employers do not have a legitimate interest in being advised of cases where a worker is not fit for a particular job or should be removed from harmful exposure. Even where the findings do not suggest the need for removal, the employer may need to know where there is evidence of exposure so that workplace exposure controls may be reviewed. From the employee's point of view even this may be regarded with some suspicion since the physicians' role in advising about fitness to work may result in the loss of a job. Since it is the consequences which are of concern, it is perhaps the issue of procedural protection for the worker which should be addressed. Where a physician finds that a worker should be removed from exposure, that worker should be fully informed in the first instance and provided with the opportunity for seeking a second opinion. The issue of whether or not workers compensation is available for such workers may be addressed by the current Manitoba Workers Compensation Review Panel.

There is another issue which needs careful consideration in the interests of safeguarding the confidentiality of occupational medical records. Problems can and do arise when an occupational health professional employed in a company leaves and is not replaced. The question of ownership of health records in such cases has been debated in court proceedings and is discussed at length in the Krever Commission Report noted above. The Department of Environment and Workplace Safety and Health, and more particularly the Chief Occupational Medical Officer should consider this issue in developing the guidelines recommended in Part C of this Report. In such cases, records could be submitted to the COMO for safekeeping. Alternatively, the relevant professional associations might be willing to receive and maintain the records until such time as the company employs another health professional.

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CHAPTER 6

REGULATORY TRENDS IN CANADA AND ELSEWHERE

6.1 INTRODUCTION

There has generally been greater regulatory attention paid to the need for and provision of occupational health services in European countries than has been the case in North America. In Canada, however, there is evidence that regulatory policy concerning occupational health services, especially the medical component, is under current review in a number of jurisdictions.

This Chapter reviews current regulatory policy and trends in Canada, in various European countries, and finally, in Manitoba. Since Quebec's occupational health and safety legislation, unlike other Canadian jurisdictions, actually specifies how occupational health services are to be provided, the Quebec system is the subject of a separate review which is contained in Appendix X of this Report.

6.2 OCCUPATIONAL HEALTH SERVICES AND REGULATORY POLICY IN CANADIAN JURISDICTIONS

This section reviews legal provisions and regulatory policy as they relate to various aspects of occupational health services in other Provinces.

6.2.1 Scope and Purpose of Occupational Health Services

Different terminology is used in the various statutes and this may or may not imply a difference in scope. Where the term "occupational health services" is used, it usually describes a service which is primarily medical in orientation (except in Quebec). Other terms include: "medical monitoring program"; "medical surveillance program"; and sometimes, simply "medical examinations".

In Ontario, "medical surveillance programs" may need to be established by employers whose workplaces are covered by designated substance regulations. Objectives of such programs are: ensuring fitness for work; evaluating effects of exposure on workers; enabling remedial action to be taken and providing health education. These programs must be under the supervision of a physician who must be provided with workers' exposure records. Recently published designated substance regulations demonstrate a change in policy towards medical surveillance programs. For example, such programs are no longer required as part of control programs.

In British Columbia, regulations define the purposes of required medical examinations and investigations as: determining fitness to work; assisting in maintaining fitness to work; and assisting in identification of working conditions likely to cause industrial diseases.

New Brunswick's Occupational Health and Safety Commission has recently published new draft regulations including standards for occupational health services which may be required in designated workplaces. Specified functions are to:

- Provide emergency response when an employee has been injured or suffers an occupational illness;
- Provide appropriate referrals and follow-up care;
- Keep employee health records and provide for ongoing health assessments of employees;
- Provide for environmental assessments; and
- Enhance prevention of occupational illness through education.

Nova Scotia's new Occupational Health and Safety Act (not yet in force) contains regulatory power to require designated employers to provide medical examinations and health surveys.

6.2.2 Requiring Occupational Health Services

Statutes generally provide discretionary power for occupational health services to be required in particular workplaces or, at least, for certain workers to be medically examined. On enquiry to officials in various provisions, it seems, however, that these discretionary powers have not been widely used, except for lead and silica exposed workers. Ontario and Quebec are exceptions since, in Ontario, occupational health services are required under designated substance regulations and in Quebec, occupational health services are required for most workplaces.

6.2.3 Administrative Organization

Occupational health and safety functions are organized in a number of provinces so as to separate direct enforcement and service related functions. Some statutes provide for the appointment of Chief Medical Officers and/or the employment of medical and nursing consultants.

In the Ontario Ministry of Labour, direct enforcement is undertaken by construction, industrial and mining branches. By contrast, the Occupational Health Branch is primarily service/research oriented. It consists of an occupational medical service, an industrial hygiene service and a laboratory. Its objective is "to provide consultation and assistance to the inspectorate, employers and workers on the recognition, evaluation and control of health hazards in the workplace . . ." [1]. Note that it provides services to the Ministries of the Environment and Health as well as to other branches of the Occupational Health and Safety Division.

Responsibilities of the 15 physicians employed by the Branch include: advising on the establishment of medical surveillance programs; and acting as consultants to the Workers' Compensation Board, hospitals and family physicians. Responsibilities of the nine Occupational Health nurses include: promoting Occupational Health Programs; auditing medical surveillance programs; advising on legislation; and participating in health surveys.

Alberta's Occupational Health and Safety Division (Ministry of Community and Occupational Health), also separates direct enforcement and service related functions. The Occupational Health Services Section is staffed to reflect the multi-disciplinary nature of occupational health and includes industrial hygienists, technologists, toxicologists, ventilation engineers, physicians, nurses, an audiologist, an epidemiologist and a radiation expert. Responsibilities include: inspection, consultation, investigation, health standard setting, medical surveillance, epidemiological research and other preventive programs.

British Columbia's organization differs from occupational health and safety regulatory authorities in other Provinces in that the Workers' Compensation Board is directly responsible for occupational health and safety. Until recently, this function was split between the Workers' Compensation Board and the Ministry of Labour. The Board's Occupational Health and Safety Division contains a number of sections [e.g. field services (inspection), information, research and standards, and education and training]. The Medical Services Section has a dual role, assisting with medical aspects of workers' compensation and provision of preventive occupational medical services.

6.2.4 Chief Occupational Medical Officers

The statutes of several provinces require the appointment of chief occupational medical officers - for example, Alberta, Saskatchewan and Newfoundland. In Saskatchewan and Newfoundland, such officers are employed on a part-time or contract basis.

Such officers usually have certain defined legal duties such as the discretionary power to require that certain workers undergo medical examinations (usually with the consent of the worker). In Saskatchewan, the Occupational Medical Officer also has the power to require employers to find alternative work where he/she finds that a worker must be removed from exposure for medical reasons.

6.2.5 Public Health Involvement

In some provinces, there have been moves to forge links between occupational health and public or community health. For example:

- Ontario's recent Health Promotion and Protection Act places specific occupational health responsibilities on Medical Officers of Health. For example, Medical Officers of Health must investigate occupational health related complaints and inform complainants about results. Medical Officers of Health also have powers to issue orders requiring employers to take action to reduce or eliminate health hazards. They are also required to keep themselves informed about occupational and environmental health matters.

  On enquiry to Ontario's Chief Public Health Physician, the writer was told that these new provisions have not, so far, resulted in increased budgets or manpower requirements but this situation may change as awareness grows.

  The "Right to Know" Bill 101 in Ontario proposes to increase the involvement of Medical Officers of Health further by requiring employers to provide them with copies of their inventories of chemical hazards in the workplace.

- In 1986, Alberta created a new Ministry which brought together community health services and occupational health and safety.

- The Quebec Commission for Occupational Health and Safety contracts with the Department of Health and Social Services to provide occupational health services through local community health clinics (see Appendix X).

6.2.6 Mandatory Medical Monitoring

Workers cannot be physically forced to undergo medical examinations. To this extent, consent is always necessary. However, medical examinations can effectively be mandatory if workers are under a legal duty to undergo them or, if it is a condition of employment. Most Canadian occupational health and safety statutes require workers to submit to legally required medical examinations but regulatory policy on this matter is changing.

In Saskatchewan, employers of silica- and lead-exposed workers must provide periodic medicals only if requested to do so by workers. A similar approach is evident in Alberta's proposed new regulations for dust-exposed workers where workers may decline to undergo medical examinations.

To an extent, workers' reluctance to undergo medical examinations is related to the possibility of results affecting their employment status. It is therefore interesting to note that statutes of New Brunswick and Prince Edward Island state that no one may prejudicially alter the status of a worker's employment as a result of medical examinations without the worker's consent. There is likely to be less concern among workers where provision is made for compensation to apply to workers removed from exposure on medical grounds as is the case in Quebec and Ontario.

6.2.7 Confidentiality and Records

The legislation of most provinces sets out confidentiality requirements regarding the results of medical examinations and, in some cases, health records in general.

Ontario's designated substance regulations require the physician in charge of a medical surveillance program to advise the employers about the worker's fitness to work, but without revealing actual results. However, the physician may inform the joint health and safety committee of such results and this has been the cause of some concern in Ontario since it may violate a physician's ethical obligations.

In other provinces (for example, New Brunswick and Saskatchewan) there are general prohibitions on people not to reveal medical examination results without the worker's consent, except as may be required for legal process. This does not preclude a physician from advising on fitness to work. Prince Edward Island prohibits a physician from disclosing medical information about a worker in a form which identifies that worker.

Ontario's designated substance regulations contain the most detailed requirements about workers' health records. These must be kept under the supervision of the physician in charge for 40 years. If and when that physician is no longer able to keep the records they must be forwarded to the Ministry's chief physician.

6.2.8 Notification of Occupational Diseases

Required notification of occupationally related diseases to the occupational health and safety regulatory authority provides information necessary to enable investigations to be undertaken, and for purposes of occupational disease surveillance generally. Thus a number of provinces, including Ontario, Saskatchewan, Alberta, and Newfoundland, require physicians to report any suspected occupational disease case. In Saskatchewan and Newfoundland, this applies to "notifiable diseases" which are listed in a regulation.

6.2.9 Role of Joint Committees

Joint safety and health committees are seen as a cornerstone of participatory health and safety programs in modern Canadian occupational health and safety legislation. It would therefore be logical to see a role for such committees in occupational health and safety programs. Quebec's legislation provides a clear mandate to joint committees in this regard. In other provinces, there is a general requirement for committees to "cooperate" with occupational health services, if established for their workplaces.

6.2.10 Service Delivery

Two aspects may be considered here: first, the extent to which occupational health and safety regulatory authorities themselves provide occupational health services; and second, the extent to which jurisdictions have regulated how such services are to be provided.

It is fair comment to note that occupational health and safety regulatory authorities in most Canadian jurisdictions have been obliged to provide some occupational health services, particularly education, industrial hygiene and laboratory services. This has been necessary because, in many cases, such services have not been available elsewhere. The exception to this has been in the area of clinical medical services where, to a large extent, it appears that such services have been available through community physicians, company employed doctors or through private medical clinics. It is also apparent that as awareness grows and with it, demand for services, increasing strain is placed on government resources. As Alberta notes: "With no growth in field staff, it became apparent that the branch could not respond to all of the continually increasing number of requests for field investigations of work sites. To maximize the impact of available resources, work sites were encouraged to participate in the solving of their own problems as much as they were able. Thus, many enquiries which in previous years would have involved a field visit were handled by telephone correspondence, providing information and advice."[2]

It is perhaps for this reason that an official from the New Brunswick Commission told the writer that its current policy was to train employees at a work site to do their own environmental monitoring once the initial problem had been assessed.

As far as mandating how occupational health services are to be provided, Quebec is the only province which has so far legislated on this matter.

6.3 OCCUPATIONAL HEALTH SERVICES IN EUROPEAN COUNTRIES

The governments of European countries have, for the most part, paid greater regulatory attention to the provision and regulation of occupational health (or medical) services than has so far been the case either in Canada or in the United States. In some countries, for example France, the requirement for employers to provide occupational medical services resulted from the reconstruction of industry after the Second World War. In others, particularly the Nordic Countries, government policy regarding occupational health services in the last two decades has stemmed from a recognition of the importance of workplace health factors in the general health of the nation.

Strong encouragement for the provision of occupational health services was provided by the Commission of the European Economic Community in 1962.[3] At that time, the Commission recommended that its member companies enact legislation requiring the provision of occupational health services in companies with more than 200 employees or where special hazards existed. It also recommended that there be legal safeguards to ensure the complete independence of the occupational health physician.

Regulatory policy regarding the provision of occupational health services in Europe must be viewed within the context of prevailing social policy, particularly in the area of health care provision and occupational health and safety. State provision of health care, which has been the norm in many European countries in one form or another for many years, means that governments have had to pay attention to prevention as the costs of health care have risen. Worker involvement in occupational health and safety has been encouraged through regulatory policy and this is reflected in legislation and practice regarding the provision of occupational health services in many European countries. Such involvement in occupational health services comes not only through joint health and safety committees but also sometimes through "works councils" which are a feature of industrial democracy in some European countries. The notion of worker involvement in occupational health and safety is of more recent origin in Canadian legislation and exists to a much lesser extent in the United States.

Legal provisions for occupational health services in a number of European Countries, including Sweden, Finland, France, Denmark, Holland, Germany and the United Kingdom are briefly reviewed below. They are considered under headings dealing with the scope of services, how and if mandated, forms of organization and so on.

6.3.1 Mandatory Provision of Occupational Health Services

In those countries in which occupational health services must be provided by law, they are usually required to be provided by the employer in-plant for companies over a certain size. Smaller companies must use multi-group services which are sometimes required to be provided under the public health or primary care system.

In France, the requirement for occupational health services dates back to 1946. Employers must provide one hour per month of physician time per 10 factory or 20 office workers. Employers requiring more than 32 hours per month must employ their own physicians on a full-time or part-time basis; employers requiring less than this amount of time may use inter-company groups.

As of 1983, Finnish law requires that all workers have access to occupational health services. Employers may provide their own, or purchase the services from a multi-group service or municipal health centres which are required by law to provide occupational health services where these are required. In the Netherlands, medical services must be provided for all plants with more than 750 workers or where special health hazards exist. In Spain, all companies employing more than 100 workers must employ occupational health physicians. In Germany, companies employing more than 500 workers must employ both medical and safety experts.

In Sweden, it is only recently that occupational health services have been specifically required by law. However, such services have been provided for many years through labour management agreements. The Swedish Working Environment Agreement sets out principles for the operation of such health services especially with regard to labour/ management cooperation. Occupational health services are provided either in-plant for larger workplaces or through group services. Sweden has recently passed a bill to amend its Work Environment Act so as to make the provision of occupational health services compulsory for all employers. It is estimated that at the present time about 60% of the Swedish workforce have access to occupational health services.

In the United Kingdom, provision of occupational health services is not legally mandated. Since 1973, Britain has had regionally based Employment Medical Advisory Services (EMAS) which were set up following the Robens' Committee Report.[4] Lord Robens' view at that time was: "Neither this country, nor any other for that matter is ever likely to be able to afford a comprehensive workplace based health service on top of a comprehensive home and family oriented health service such as we have at the moment." This view, no doubt, explains why the subsequent Health and Safety at Work Act did not require the provision of occupational health services. Instead, the Health and Safety Executive responsible for administering the Act relies upon a nationalized and specialized service which the EMAS represent.

EMAS have the responsibility for provision of information and advice concerning health at work. They also examine workers where an occupationally related health problem is suspected and cooperate with inspectors to investigate workplace causes.

6.3.2 Scope and Functions of Occupational Health Services

European countries differ widely in the range of required functions for occupational health services. They range from the provision of occupational clinical services such as pre-employment and periodic health examinations to a comprehensive and integrated clinical and technical service. Some also provide treatment. Countries in the Soviet Bloc, on the other hand, provide an integrated occupational and general health care system. There are, thus, major differences in the extent to which occupational health services are truly prevention oriented.

Of all European countries, the Nordic countries offer the most comprehensive occupational health services. Occupational health services in Finland are staffed by physicians, nurses and industrial hygienists. Indeed, the Occupational Health Care Act requires that the occupational health service undertake a detailed inspection and assessment of the entire workplace initially and when work processes change. Such assessments include hygiene surveys, observations, questionnaires and interviews. (This requirement is very similar to Quebec legislation for occupational health services.)

The scope and functions of Swedish occupational health services are set out in collective agreements which require that the role of occupational health services focus on prevention and include both a medical and a technical component. Such agreements include the following tasks for an occupational health service:

- "To survey working conditions by testing, analysis and evaluation, and to play a part towards suitable measures being taken to improve the working environment;

- To survey and plan the working environment from an ergonomic standpoint;

- To trace any effects of environmental hazards on employees by systematic health checks;

- To organize first aid in case of sudden illness and accident;

- To provide medical care to employees (where complaint is work-related); and

- To play a part towards prompt and appropriate rehabilitation measures..." [5]

In France, by contrast, occupational health services are primarily medical in scope and function. All workers in France are required to have pre-employment and periodic medical examinations. (The frequency of periodic examinations depends upon the class of risk inherent in the workplace or occupation.)

6.3.3 Worker Involvement

As Gevers [6] notes, worker involvement in occupational health services in European countries which are members of the European Economic Community has occurred as a logical extension of participation in occupational health and safety programs generally, rather than through specific inclusion of such rights in occupational health service legislation. Worker involvement is achieved in such ways as: an obligation upon occupational health service providers to consult with the joint safety and health committee or worker representatives; the right of the joint committee to select or approve the appointment of occupational health professionals; and a joint management/labour advisory council or board attached to group occupational health centres or clinics. The rationale for worker involvement in occupational health services, as pointed out by Forssman [7], is the need for such services to be seen as impartial and thus gain the confidence of both management and workers. In France, the Works Council must be consulted regarding the organization and functioning of the occupational health service for the enterprise including decisions to hire or fire a plant physician. Where services are provided by a group service, consultative committees composed of equal number of employer/worker representatives supervise the operation of occupational health services. Similar arrangements apply in the Netherlands and in Belgium. In the latter case, the plant physician must investigate health concerns if requested to do so by a worker representative or trade union.

In Denmark, the Working Environment Act of 1987 specifically requires that the "safety organization" (in which both management and workers participate) must be consulted regarding the objectives and functions of an occupational health service. It must also be consulted about the choice between establishing a plant based occupational health service or use of a group service (again such group services must have a labour/management board), as well as the choice of "health specialists". As noted by Gevers [8] the use of this term rather than "physician" implies a recognition in Danish law that an occupational health service is a multi-disciplinary function. In Sweden, the functioning, operation and staffing of occupational health services come under the direct supervision of labour and management through collective agreements and on a day-to-day basis, through the joint safety and health committee.

Thus, in many European countries, workers have a legal right to involvement in the functioning and organization of occupational health services whether these are plant based or provided through group services. However, the involvement of workers through the Works Committees in all matters concerning production and work is a long standing tradition in a number of countries. Such has not been the case in Canada where joint consultative committees have not been the norm.

6.3.4 Funding

There are two funding models in the European countries referred to above: either the employer is required to cover the full cost of occupational health services for their workplaces; or some degree of subsidy is provided through health or social insurance funds.

In France, employers must cover the full cost of occupational health services whether provided in-plant or through a group service. In the case of a group service, employers pay an entrance fee and thereafter a monthly fee based on the number of employees covered by the group service.

In Finland, on the other hand, the Social Insurance Fund compensates employers for up to 60% of the costs incurred in providing occupational health services. Such a subsidy may also cover costs incurred in the acquisition of equipment such as that required for environmental monitoring. In addition, the fees which may be charged either by municipal health units or private occupational health centres are regulated by law. In Sweden, the Health Insurance Fund compensates employers of small workplaces for 50% of the cost of providing medical and nursing services for an occupational health service.

The practice of subsidizing occupational health services, to some extent, through health insurance implies a recognition of the significance of workplace factors in the incidence of disease and illness and associated health care costs. It also provides an incentive for small employers for whom the per capita costs of occupational health services provision are often greater than those for larger employers.

6.3.5 Supporting Organizations

As Forssman points out [9], there is a need for supporting organizations to provide expert advice and information, training and research. Thus, in a number of European countries there are central occupational health institutes. In Finland, for example, there is an Institute of Occupational Health which plays a significant role in research, teaching, consulting service and public information. This Institute employs some 500 people and has a budget of $11 million.[10] Similar organizations exist in Sweden and Norway. In France, social security funds support such an organization, l'Institute National de Recherche et de Securite pour la Prevention des Accidents du Travail et des Maladies Professionelles. To some extent, NIOSH in the United States may be compared to such organizations. The Canadian Centre for Occupational Health and Safety compares to a lesser extent in that it does not provide for the training of occupational health professionals nor does it provide consultation services.

The most comprehensive requirements for occupational health services are to be found in the Nordic countries where the provision of medical and technical services tend to receive equal emphasis. In most of the countries described above, it has been recognized that small companies could not be expected to run their own in-plant services and so provision has been made for the delivery of services through group clinics, which may be publicly or privately run, but which in most cases provide for bi-partite involvement of management and labour.

6.4 OCCUPATIONAL HEALTH SERVICES - CURRENT LEGAL REQUIREMENTS IN MANITOBA

This section reviews current legal provisions as they relate to occupational health services under Manitoba's Workplace Safety and Health Act and its regulations. These are considered below under appropriate headings.

6.4.1 Chief Occupational Medical Officer

The Act requires the Minister of Environment and Workplace Safety and Health to appoint a Chief Occupational Medical Officer (COMO) who is to be a physician with training and experience in occupational medicine. The COMO has the same powers as a safety and health officer. Further, the COMO may provide written authority to an occupational health nurse to enter workplaces and enforce the Act's provisions. The COMO may also carry out, or arrange to carry out, medical examinations of workers at his/her discretion but with the consent of the worker concerned. Such examinations must be carried out during working hours and without loss of pay. The COMO has the power to require the submission of medical information concerning a worker from a physician or hospital.

Since the Act came into force, neither a full-time COMO nor an occupational health nurse has been consistently employed by the Department. (Although currently an acting COMO has been appointed to the Division on a part-time basis, on a cooperative arrangement with the Department of Health). It is possible that this may be due to the fact that the role of the COMO is not well set out in the Act and that older regulations dealing with medical examinations are not related to the role of the COMO.

6.4.2 Occupational Health Services

Under the Act, the Minister has discretion to require that occupational health services be established for certain workplaces. Since the Act came into force, this power has not been used extensively. Only some half dozen such orders have been issued, all dealing with a requirement for blood lead level testing for lead exposed workers.

The Act defines an "occupational health service" in broad terms so that the scope implies provision of both hazard assessment as well as health assessment functions. One specified purpose of such a service, for example, is "protecting the workers against any health hazard that may arise out of their work or the conditions under which it is carried on" [Section 1 (1)]. In practice, this provision has only been used to require medical monitoring programs. Once the Workplace Health Regulation comes into effect, this provision in the Act should be reviewed in the light of its consistency with that new regulation

6.4.3 Joint Safety and Health Committees

One of the legal responsibilities of such committees under the Act is "co-operation with the occupational health service, if such a service has been established within the workplace". Again, this may become redundant once the Workplace Health Regulation comes into effect. The role of joint committees with regard to occupational health services and particularly medical monitoring is discussed in Chapter 5 and in Part C of this Report.

6.4.4 Regulation 208 - Lead/Benzol Exposed Workers

This regulation applies to workplaces at which lead or benzol is manufactured or used. In such workplaces, containers used for lead or substances containing lead must be labelled and the Minister may order the posting of warning notices in certain workplaces.

In addition, the Minister may require workers "in any industrial process that is considered by the Minister to be detrimental to health . . ." to undergo medical examinations at the expense of the employer. Physicians conducting such examinations must send reports to the Director. These requirements for medical examinations were presumably intended to apply to lead exposed workers but are worded in such a way as to apply generally. There is also a requirement that physicians should report any case of industrial disease or suspected industrial disease to the Director (Workplace Safety and Health Division).

It does not appear that the powers provided in this regulation have been used to any great extent. The Act's power for the Minister to require any employer to establish an occupational health service has been used where necessary for lead exposed workers. Since labelling requirements will be covered more generally in the Workplace Health Regulation, the Lead Regulation is probably now redundant.

The requirement for physicians to report suspected cases of occupational disease or illness should probably be in the Act itself. However such a requirement should be considered in the context of the development of an occupational disease surveillance system as recommended in Part C of this Report.

6.4.5 Regulation 209 - Fibrosis/Silicosis

This regulation requires workers in certain specified occupations to obtain a licence from the Minister in order to work. Such licences are granted only when following a medical examination (including a chest x-ray), the Minister is satisfied that the worker is physically fit to work. The occupations so specified are:

- hard rock mining;
- stone cutting;
- metal foundry work;
- hard rock drilling and crushing;
- any industry in which workers are exposed to dust in the use of abrasive equipment and where the abrasive, or the object abraded, contains silica on its surface or in its interior;

- any industry in which asbestos, or any mixture of asbestos, is worked or handled, or any asbestos textiles, or any article composed of or containing asbestos, is manufactured or repaired.

This regulation, although dating back to the 1940's, has been fairly extensively used. At the present time, some 2,700 Manitoba workers in 44 workplaces are in possession of licences under this regulation and must pass annual medical examinations in order to have such licences renewed. (Although x-rays are not always required annually.) In the main, the regulation has applied to silica-exposed workers in mines and quarries. Required examinations and chest x-rays are arranged through contract with the Sanatorium Board and paid for by the Workers Compensation Board .

Clearly, this regulation should also be the subject of review, particularly with regard to its coverage of asbestos exposed workers. The requirement for workers to undergo chest x-rays should also be reviewed in the light of their effectiveness in identifying signs of disease at a treatable stage. The role of the COMO with regard to this regulation should also be considered and clarified.

6.4.6 Draft Mining Regulations

Occupational health and safety regulations applying to miners under the Mines Act have been revised for inclusion as a regulation under the Workplace Safety and Health Act. Section 42 of this new draft regulation apply to a required "Health Surveillance Program". Such a program is to include preplacement medical examinations for all workers (employed in mines) and periodic examinations to be determined by: other legislation, a physician on review of exposure records, or at the discretion of the COMO. The physician undertaking the preplacement examinations must inform both the worker and the employer of any work which that worker should not undertake because it might affect his/her health and safety.

The employer must insure that the physician undertaking required medical examinations keeps records for the duration of the workers' employment. The physician must also make the information about examinations available to the worker or his/her physician on request. When the worker ceases to work at the particular workplace or if the mine closes operations, the physician is required to submit all health records to the COMO.

The physician must also inform the Workers' Compensation Board, the joint safety and health committee, and a safety and health officer when a worker must be transferred, suspended or terminated because his/her health has been adversely affected by exposure at the workplace.

The draft regulation does not specify what tests must be included in the preplacement or periodic medical examinations or who should decide this. This should perhaps be the subject of a Code of Practice or, alternatively, should be determined by the COMO in the interests of ensuring consistency.

6.4.7 Noise Regulation

The Noise Regulation under the Workplace Safety and Health Act came into effect in 1985. It applies to workplaces in which sound levels may adversely affect a worker's hearing or health.

Where an assessment reveals a potential problem, a hearing conservation program must be put into effect by the employer in consultation with the joint safety and health committee or worker representative. As part of the hearing conservation program, a "hearing surveillance" program, including annual and preplacement audiometric tests and ear examinations, must be instituted. This latter program must be under the supervision of an occupational health physician or an otolaryngologist. Duties of this supervising physician include: examining cases referred to him/her by the person conducting audiometric tests and examinations and reporting back to the employer, worker and person who conducted the tests, and preparing an annual report on the hearing surveillance program and providing this to the employer, co-chairpersons of the joint committee and "an occupational health service where such exists". The Regulation also sets out detailed requirements regarding the keeping of health records under hearing surveillance programs and ensuring their confidentiality.

Employers are required to engage a certified industrial audiometric technician (or an audiologist etc.) who is responsible for conducting audiometric tests, preparing health histories, and counselling workers regarding hearing conservation.

Experience with implementation of the Noise Regulation should prove helpful in anticipating how to meet demands for various occupational health services in the future. Initially, the demand for audiometric technicians was met by certified training provided by resources in the Department of Health in cooperation with the Manitoba Speech and Hearing Association. Many of the people so trained included people employed in the workplaces for which they were to provide audiometric testing services once trained. Many so trained were occupational health nurses. In addition, mobile testing units were set up on a fee-for-service basis by a number of private individuals and the Victoria Health Guard (see Chapter 10). The present lack of resources and services in the area of industrial hygiene, as noted in Chapters 9 & 10, presents a similar problem which could be met to some extent by a) mobile units and b) the training of in-plant personnel to conduct routine environmental monitoring tests.

6.4.8 Draft Workplace Health Regulation

This regulation sets out legal procedures for the identification, assessment and control of health hazards in Manitoba workplaces. The second draft contains a section dealing with requirements for "health monitoring programs". It would apply only to those programs which are set up in workplaces by specific order of the COMO. Such an order would only be made to supplement environmental monitoring, when environmental monitoring cannot be carried out because the substance cannot be identified or in emergency situations. "Health Monitoring Program" was defined in the regulation so as to include both biological monitoring and general health assessment. However, the current draft regulation has deleted reference to health monitoring programs pending submission of this Report and its recommendations.

6.4.9 Discussion

Clearly the above described legal requirements dealing with medical monitoring and occupational health services have developed in a piecemeal fashion to meet special problems. In the main, current legal requirements:

- Deal only with legally required (by regulation or specific order) medical examinations.
- Split administrative authority between the Minister, the Director and the COMO.
- Do not deal with how medical or occupational health services are to be delivered (except in the case of the Silicosis Regulation where the Minister may designate the physician).
- Do not deal with some of the currently controversial issues involved with medical and biological monitoring to any great extent.
- To a large extent, deal with medical monitoring in isolation from other related aspects of occupational disease and illness prevention.
- Do not spell out clearly in the Act or regulations the role of the Chief Occupational Medical Officer or the occupational health nurse.
- Use inconsistent and confusing terminology to describe various types of occupational health services.

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CHAPTER 7

OCCUPATIONAL HEALTH SERVICE DELIVERY MODELS

7.1 INTRODUCTION

With the exception of Quebec, little regulatory attention has so far been paid to occupational health services delivery in Canadian jurisdictions, including Manitoba. Traditionally, such services have been provided in-house by larger employers and on a part-time or contractual basis by community or family physicians for smaller workplaces. In provinces with relatively large industrial bases and worker populations such as Ontario and Quebec, a range of private consulting companies or clinics have developed which operate on a fee-for-service basis. However, it is unusual to find any such private undertakings which provide a comprehensive range of occupational health services.

In recent years, two new delivery models have been developed in various parts of Canada, the university based occupational health clinic and the union/worker occupational health clinic. By contrast, worker occupational health clinics have not developed to any great extent in European countries. This is no doubt due, in part, to the fact that organizational models for occupational health services delivery in such countries have traditionally included management and labour policy direction on a joint basis.

An important consideration in any occupational health services delivery model is the ability to provide cost-effective services for small plants on an affordable basis. Special problems of small plants in this regard are considered in Chapter 11.

7.2 RANGE OF DELIVERY MODELS IN CANADA AND ELSEWHERE

Various organizational models for the delivery of occupational health services exist in Canada, the United States, and in Europe. For the most part, in-plant services exist only in the larger companies. The range of such organizational models is outlined in Figure 7.

Service delivery models, which have a multi-plant client base, vary in type of ownership, funding arrangements, policy direction input, and range of services offered. For example:

- Labour clinics are usually run by trade unions and funded by those unions assisted in some cases with government funding and do not charge fees for service to individual worker clients.

- University/hospital based clinics generally require start-up money obtained from governments or hospitals and work on a fee-for-service basis. Such models benefit from the availability of space and facilities provided through the hospital or university so that initial capital expense is minimized. The occupational health clinic run by the University of Massachussetts Medical Centre has established two Advisory Boards to assist in policy direction: a Labour Advisory Council and an Industrial Medical Advisory Council. In Canada, such university-based occupational health clinics have been established in Calgary, London, Toronto and one is being considered in British Columbia. The Faculty of Medicine at the University of Manitoba is also currently considering initiatives in this area.

- Community health based occupational health clinics are usually developed as an adjunct to the public health system. This is so, for example, in Finland where occupational health services must be provided by municipal health centres and also in Quebec. Funding arrangements vary. In Finland, employers pay for services provided but about 50% or more of fees paid are recoverable from the State

FIGURE 7: OCCUPATIONAL HEALTH SERVICES DELIVERY MODELS

MODEL	WHO PROVIDES	FUNDING	POLICY DIRECTION
In-House	Employer	Company Budget	Employer
MULTI-PLANT			
Private Clinics/services (e.g. Company Nurse)	Private	Fee-for-service or retainer/per capital	Directors/Owners
Non-profit group clinics (e.g. Harlow, England)	Independent but State endorsed.	Initial seed money; per capital company membership fees.	Council of Management
Community/family physicians, part-time	Employers--part-time contracts.	Fee-for-service.	Employer
Labour Clinics (e.g. MFL OH Clinic)	Unions	Unions/Government	Unions--plus Board with some public representation.
University based clinics (e.g. Calgary)	University	Government or Hospital seed money plus fee-for-service or retainers.	University, but some (e.g. University of Mass. U.S.) have labour/ management advisory boards.
Community Health Centres (e.g. Quebec)	Health, Community Service Department.	WCB	Bi-Partite OHS Commission
OH Clinics/Centres (Sweden)	State or State endorsed	Fees but some recoverable from health insurance.	Labour/Management Councils
Regional Hospital Clinics (U.S.)	Hospital/State	State Support; some fees	Hospital/State
State IH and Safety Consultation Services (U.S.)	State	State	State
Expert Back-up Institutes (U.S., Finland)	State	State	State

Health Insurance Plan. In Quebec, the cost of providing services is covered through Workers' Compensation Board employer assessments. Close connections to the public health system have the advantage of shared resources, specific community interest and the fact that the centres are community based thus allowing for easy access.

- o Non-profit group clinics were established in England in a number of heavily industrialized regions. These were provided with start-up grants from the Nuffield Foundation which was set up in the 1940's to provide grants for research and services to improve the health of the working people. These clinics appear to be reasonably successful in operating on a cost recovery basis.[1] They do not operate on a fee-for-service basis, but enlist member companies who pay a per capita annual fee. This system has the advantage of ensuring a greater predictability of income on a year-to-year basis.

- o Group self-standing occupational health clinics may be private, state provided or state endorsed. However provided, most such clinics in European countries are required to have labour/management advisory boards. In Canada, most such clinics are private and usually do not offer a comprehensive range of services but specialize in a number of fields - occupational medicine, industrial hygiene, occupational health nursing, back care clinics and so on.

- o In the United States, the provision of state occupational safety and industrial hygiene consultation services deserves comment even though such services do not fall strictly within the definition of occupational health services. A number of states provide these services free to employers and provide an assurance that the information obtained will not be used for enforcement purposes. Employers, for their part, undertake to remedy identified hazardous conditions.

- o Other models which are common in the United States are the private "industrial medical clinics" and multi-specialty group private practices. As Guidotti notes [2], these models have certain disadvantages including an uncertain role for non-medical occupational health services such as industrial hygiene and a potential conflict of roles between those providing both occupational and personal health care services.

- Expert state-provided Occupational Health Institutes provide back-up for service providers and their clients, and also for regulatory agencies. Where they exist, for example in Finland, and NIOSH in the United States, they generally concentrate on education, information provision and research. To some extent, the Canadian Centre for Occupational Health and Safety may be considered as playing a similar role in Canada although the Centre has no particular mandate for the provision of training, nor does it engage in toxicological or epidemiological research. It is of interest to note that the most consistently mentioned need during the consultation workshops conducted for this study was for an expert and independent source of advice and information.

- Finally there is the provision of occupational medical services by community or family physicians. Such services are usually provided on a part-time fee-for-service basis by local physicians who may serve several workplaces. As discussed in Chapter 10, a significant number of physicians providing such services exist in Manitoba. Disadvantages of this type of service provision include the isolation of the physician from related aspects of prevention programs, and lack of knowledge about the workplace and about occupational health in general.

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PART B
ASSESSING THE NEEDS FOR OCCUPATIONAL HEALTH SERVICES IN MANITOBA

CHAPTER 8

ESTIMATING THE SIZE OF THE PROBLEM

To be effective, occupational health prevention strategies, including the provision of occupational health services, must be based upon knowledge about the extent and nature of the problem. This is necessary in order to ensure that priorities are identified and that scarce resources are appropriately deployed. This Chapter therefore considers from available information, the extent and nature of occupational health problems in Manitoba workplaces. It reviews available information about the incidence of occupational disease and illness, the existence of health hazards in workplaces and other indicators of need. It also reviews characteristics of the Manitoba workforce.

8.1. CHARACTERISTICS OF THE MANITOBA WORKFORCE

By comparison with Quebec or Ontario, Manitoba is a small province with a population of approximately one million people of whom more than half live in Winnipeg. The demographic, geographic and industrial sector characteristics of the province have implications for the types of occupational health services likely to be needed as well as for identifying feasible ways of providing such services.

FIGURE 8

MANITOBA LABOUR FORCE BY MAJOR OCCUPATIONAL GROUP FOR YEAR 1981

OCCUPATIONAL GROUP	NUMBER IN 000'S
Managerial, Administration	32.0
Natural Sciences, Engineering & Mathematics	14.0
Social Sciences	9.0
Religion	1.4
Teaching	20.5
Medicine & Health	16.9
Artistic, Literary, Sports, Recreational	5.8
Clerical	63.6
Sales	47.0
Service	63.5
Farming	42.6
Fishing, Hunting, Trapping	1.0
Forestry & Logging	1.4
Mining & Quarrying	3.1
Processing	13.0
Machining	11.4
Product Fabricating, Repair	37.6
Construction	29.4
Transport Equipment Handling	20.1
Materials Handling	8.8
Other Crafts & Equipment Handling	5.8
Not Elsewhere Classified/Not Specified	23.5
	504.1

Source: 1981 Census Data, Statistics Canada

8.1.1 Occupational Characteristics

The working population of Manitoba amounted to approximately 504,000 in 1981. (see Figure 8). Sixty-four percent are employed in service type occupations, whereas only between 11 and 12% are employed in the manufacturing sector. About 8% work either for the provincial or federal government. Approximately 5% work in construction while about 8% work in agriculture. In Manitoba, the manufacturing sector is a more dominant component of the economy than natural resources so that mining and quarries amount to only about 0.5% of the workforce.

Making the assumption that, in general, manufacturing, agriculture, construction and mines are likely to possess a greater variety of health hazards than service industries, this would suggest that approximately 25% of the workforce have the greatest needs for occupational health services.

The Manitoba workforce also tends to have a greater number of workers who come under Federal Government jurisdiction than in other Canadian provinces. Federally regulated industries include transportation, banking and finance, defence, federal civil service and grain elevators. Whereas the national average for such workers is about 10%, the number in Manitoba is closer to 17 or 18% (this includes defence, see Figure 9). Since it is likely that federally regulated workplaces may use any occupational health service facility which is provided in the Province, the Federal Government could be approached with regard to funding arrangements.

FIGURE 9

NUMBER OF WORKERS IN FEDERALLY REGULATED WORKPLACES
IN MANITOBA 1981

Grain Elevators	595
Transportation	28,000
Communication	10,085
Finance (Banks, Insurance, Trust Companies)	11,860
Federal Government Administration	18,480
Defence	55,675
	88,495

Source: Statistics Canada, 1981 Census.

8.1.2 Manufacturing Sector Characteristics

The manufacturing sector is an important part of the Manitoba economy, contributing about 14% of the gross domestic product.[1] This sector of our economy has a number of important characteristics, particularly in relation to the need for provision of occupational health services. First, as with industry in general, it is dominated by small businesses. Thus, about 80% of the firms in this sector employ less than 25 employees. (About 94% of all firms in the province employ less than 25 employees.) These small firms in the manufacturing sector amount to about 20% of the total employment in manufacturing, and they contribute about 36% of sales volume for the sector. Second, unlike, for example, the automobile industry in Ontario, the manufacturing sector is not dominated by the presence of a few large firms on whom a large number of small firms depend for economic survival. Third, small firms in the manufacturing sector tend to be independent rather than subsidiaries of larger firms outside the province. Fourth, the manufacturing sector is relatively diversified (see Figure 10).

FIGURE 10

NUMBER OF ESTABLISHMENTS BY INDUSTRY (MANUFACTURING SALES) AND EMPLOYMENT SIZE FOR MANITOBA - 1982

INDUSTRY	NUMBER OF EMPLOYEES					
	0-19	20-49	50-99	100-199	199+	TOTAL
Food and Beverage	173	23	12	7	8	223
Rubber & Plastic	28	6	1	1	-	36
Leather	8	5	2	-	-	16
Textile	38	7	3	-	-	48
Knitting Mills	1	1	-	2	-	4
Clothing	42	19	12	13	7	93
Food	119	10	6	1	1	137
Furniture	120	13	6	-	1	140
Paper & Allied	10	5	-	1	1	17
Printing & Publishing	192	15	10	2	3	222
Primary Metals	6	5	1	1	1	13
Metal Fabricating	131	21	11	7	1	171
Machinery	52	9	3	3	4	71
Transportation	51	10	1	3	6	71
Electrical Products	37	4	2	-	1	44
Non-Metallic Mineral Production	60	5	2	2	1	70
Chemicals	14	6	-	-	1	21
Miscellaneous	119	10	2	1	-	132
						1,529

Source: Statistics Canada (1982) reproduced from unpublished data in: Economic Council of Canada, Paper No. 254: The Manufacturing Sector in Manitoba, 1984.

These characteristics have implications for the provision of occupational health services. Since the per capita costs of providing occupational health services tend to be greater for small firms than for larger firms, it can be anticipated that for the vast majority of such firms, provision of in-house services will not be a feasible proposition. They are also unlikely to be able to afford private consulting fees. In addition, given the independent and diversified nature of small firms in the manufacturing sector, they cannot benefit from either the resources of a larger parent company or from the presence of a dominant industry.

8.1.3 Geographic Characteristics

Sixty percent of the Manitoba workforce works in Winnipeg, while of the manufacturing industrial sector, nearly 70% works in Winnipeg (see Figure 11). In general, employment in Manitoba is concentrated in southern Manitoba with the rest of the workforce scattered in relatively small, remote communities.

This industrial density pattern, together with the geography of the province suggests that the provision of local or community based occupational health centres or clinics throughout the province would be an expensive proposition with relatively high per capita costs in the smaller and more remote communities.

8.2 MEASURES OF NEED - INTRODUCTION

8.2.1 Introduction

The need for occupational health services in Manitoba workplaces may be measured in several ways. These include: measures of outcome (of the incidence of occupational disease); the existence of potential health hazards; and the extent of exposure through assessments of the perceived needs of key players; and expressed demand for occupational health services. These measures of need in Manitoba are considered below.

FIGURE 11

MANITOBA EMPLOYED LABOUR FORCE BY INDUSTRY BY EMPLOYMENT SERVICES REGION, 1981

Manitoba Employed Labour Force by Industry by Employment Services Region, 1981

Region/Industry	Agriculture	Forestry	Fishing	Mining	Manufacturing	Construction	Transportation Communications and other Utilities	Trade	Finance, Insurance and Real Estate	Community Business and Personnel Services	Public Administration and Defense	Region Total
Eastman	5,015	330	75	475	4,480	2,470	2,870	4,710	955	7,740	1,970	31,270
South Central	10,560	5	10	80	3,760	2,360	2,065	6,715	1,265	8,005	2,615	37,435
Westman South	5,785	10	0	125	615	845	1,145	2,565	605	3,900	940	16,600
Westman North	6,960	25	0	160	2,865	1,895	2,825	6,045	1,350	10,675	3,430	36,410
Parklands	7,040	260	100	290	850	1,415	1,775	3,605	670	5,405	1,650	23,430
Interlake	5,010	80	240	90	3,815	1,975	2,635	4,015	900	6,700	2,765	28,375
Lake Winnipeg	170	145	220	35	90	125	100	100	5	475	310	1,935
The Pas	245	380	370	1,870	1,495	355	1,095	1,400	265	3,025	945	11,630
Thompson	40	85	90	1,980	775	425	940	1,270	275	2,530	1,150	9,690
Leaf Rapids	5	10	35	720	30	65	450	220	55	670	225	2,425
Churchill	5	5	20	415	15	40	260	125	30	330	130	1,395
Winnipeg	1,515	200	195	645	51,420	14,240	35,460	56,065	18,870	92,390	27,245	301,360
Manitoba	42,350	1,550	1,355	6,875	70,205	26,200	51,615	86,910	25,230	142,620	43,370	501,945

Totals may not add due to rounding

Each region total includes a number for industry not applicable. Therefore industry members will not add to region total. For Manitoba these non-classified totals equalled 0.7% of the total.

Source: Statistics Canada, 1981 Census

8.2.2 The Incidence of Occupational Disease

Precise estimates of the extent and nature of occupational health problems have proved notoriously difficult tasks for researchers and regulatory agencies.[2] The long latency period between exposure and the onset of disease, the complex etiology of many diseases, difficulties in relating disease to particular exposures and the fact that only recognized occupational diseases are reported to compensation boards are all factors which make precise estimates difficult.

There are two ways in which the incidence of occupational disease may be estimated.[3] Reported and recorded cases of known or suspected occupational disease and illness can be collected from various sources. Alternatively, incidence can be extrapolated from reliable estimates based on epidemiological and scientific data. The first method relies heavily on the ability of physicians, and to some extent patients themselves, to recognize a relationship between disease/illness symptoms and occupational exposure. It also assumes effective reporting systems.

Possible sources of information about occupational disease include workers' compensation board claims statistics, hospital separation reports and death certificates. Another possibility, as suggested by the Canadian Centre, [4] is reportable disease statistics (e.g. cancer) assuming that occupational histories are included on such forms. This also facilitates identification of new occupationally related health concerns.

To what extent are such sources of information currently useful in assessing the incidence of occupational disease in Manitoba? Workers' Compensation Board claims in Manitoba have recently been coded according to the National Work Injury Statistics Program which provides certain codes (although not based on the International Classification of Diseases Code) for occupational disease and illness. An analysis of the number of disease/illness related accepted claims for 1985 revealed that there were approximately 1,311 such claims (amounting to 5.8% of total accepted claims) (see Figure 12). A significant number of these disease/illness claims related to "inflamation/irritation". They also included hearing loss and chemical burns. Cancer is not separately identified. The extent to which Workers Compensation Board statistics underestimate the actual incidence of occupationally related disease/illness has been much discussed.[5] While there is a general consensus that the figures do underestimate incidence, the extent to which they do so is not as clear.

FIGURE 12

WORKERS COMPENSATION BOARD ILLNESS/DISEASE ACCEPTED CLAIMS FOR 1985

DISEASE/ILLNESS	NO. OF CLAIMS
Inflamation/irritation	560
Chemical burns	188
Systemic poisoning	136
Radiation effects (probably includes welding injuries)	117
Hearing loss	94
Dermatitis	82
Unclassified or unidentified	39
Pneumoconiosis	30
NEC	30
Freezing/frostbite	19
Contagious or infectious disease	12
Silicosis	2
	1311

When these disease/illness accepted claims were analyzed by SIC industry code, the largest number came from the manufacturing sector. (See Figure 13.)

FIGURE 13

NUMBER OF ILLNESS/DISEASE ACCEPTED CLAIMS
BY SIC INDUSTRY CODE FOR 1985

SIC Major Industry Code	No. of Claims
Agriculture	6
Forestry	6
Fishing and trapping	0
Mining	73
Manufacturing	451
Construction	146
Transportation/communication and other utilities	164
Trade and commerce	149
Finance/Insurance/Real Estate	6
Community, Business and Personal Services	168
Public Administration and Defence	136
	1305

Cancer is a reportable disease under the Public Health Act. Occupational histories are not, however, required. Although for this study, it was not possible to survey the extent to which occupational data were recorded in hospital records for this Study, such a study in Alberta [6] showed that although occupational data were recorded in about 43% of records surveyed, they was mostly inadequate for the purposes of identification of occupational causes.

It appears that available data in Manitoba is currently inadequate for purposes of assessing the incidence of occupationally related disease and illness. For this reason, serious consideration must be given to the establishment of suitable data bases.

The establishment of a uniform system of occupational disease surveillance in all Canadian jurisdictions has recently been proposed by the Federal/ Provincial Advisory Committee on Environmental and Occupational Health (based largely on the Canadian Centre recommendations.[7] Such a system would include improvements in current Workers' Compensation Board recording of occupational disease and illness as well as achievement of greater uniformity in the criteria for accepting health related concerns. In addition, the system would include provision for existing medical information (e.g. death certificates) to be supplemented with occupational data.

The Canadian Centre Report recommended that the government department which would be responsible for a surveillance system establish a position responsible for various aspects of the surveillance system, including: investigating new cases of occupational diseases; occupational health education; and general coordination. This suggests an important role for the Chief Occupational Medical Officer.

Since Manitoba data is insufficient to estimate the incidence of occupational disease, research conducted elsewhere, especially in the United States, helps to provide an indication of the likely extent of the problem in Manitoba.

1982, NIOSH in the United States developed a list of the 10 leading work-related diseases and injuries based on three criteria: frequency of occurrence, severity in individual cases and amenability to prevention (see Figure 14).[8]

FIGURE 14

THE 10 LEADING WORK-RELATED DISEASES AND INJURIES - UNITED STATES - 1982

1. Occupational lung disease
2. Musculoskeletal injuries
3. Occupational cancers
4. Severe occupational traumatic injuries
5. Cardiovascular
6. Disorders of reproduction
7. Neurotoxic disorders
8. Noise induced hearing loss
9. Dermatologic conditions
10. Psychologic disorders

Three of the conditions on this list were indicated as being the most common in surveys conducted for this study--respiratory conditions, musculoskeletal injuries and dermatitis or skin conditions.

Estimates of the total incidence of work-related disease and illness range between 10 and 12%. A United States Report to Congress on Occupational Disease, [9] refers extensively to studies between 1966 and 1978 by the United States Social Security Administration on disabled and non-disabled adults ages 20-64. These surveys asked individuals to indicate whether or not their main condition was job-related. Although these studies rely on self-reporting, a number of analyses to check the validity of the data produced satisfactory results. This survey showed that between 11 and 12% of disabled persons felt that their condition was job-related. Broken down by type of condition, respiratory conditions had the highest percentage of disabled persons who felt their condition was work-related (see Figure 15).

FIGURE 15

PERCENTAGE OF DISABILITIES RELATED TO OCCUPATIONAL DISEASES FOR MAJOR HEALTH CONDITIONS IN 1974 (IN THOUSANDS)*

Health Conditions	No. Disabled from all Causes	Percent Related to Occupational Diseases
All	15,378	11.3%
Musculoskeletal	5,957	10.8
Cardiovascular	3,449	11.7
Mental	1,434	11.4
Respiratory	1,263	18.6
Digestive	819	6.3
Neoplastic (Cancer)	326	.1
Neurological	252	.2
Endoctrine	278	.2
Urogenital	171	3.6
Other	1,429	12.1

*Source: 1972 and 1974 Survey of Disabled and Non-disabled Adults, U.S. Social Security Administration - Analyses by U.S. Department of Labour, 1979.

The WHMIS Report uses a factor of 10% (of total of all cases of disease and illness) in assessing the number of work- related health conditions. Applying this figure to Manitoba, approximately 16,000 hospital stays per year may be attributable to occupational causes.[10] These figures and associated costs suggest the need for Department of Health involvement and cooperation in occupational health prevention strategies.

Estimates of the incidence of occupationally related cancer range from 4% to 20%. The 4% estimate originates from the studies of Doll and Peto [11] and are the subject of reasonable consensus, although possibly conservative. Applying this figure to Manitoba, there may be some 226 cases of work-related cancer per year.[12] The WHMIS Report estimates the social costs attributable to work related cancer for Canada in 1984 at $267 million. (Costs measured included medical costs, lost wages, production costs and property damages and losses.) Treatment related costs in Manitoba could be estimated at about $2.6 million.[12] This figure would be substantially higher if one added lost wages and other direct costs. The rate and costs estimated to be associated with work-related cancer are significant, particularly since many such cancers are potentially preventable.

A relatively high proportion of respiratory diseases may be attributable to workplace exposures. Dr. Warren [13] estimates that there may be between 200 and 250 work-related acute chronic respiratory disabilities per year in Manitoba and about 100 deaths.

These estimates suggest that the incidence of occupationally related disease and illness in Manitoba is likely to be significant, and certainly higher than currently recognised.

8.2.3 Estimating the Exposure Problem

Another way of estimating the magnitude of the problem is to assess the extent to which workers are exposed to hazards in their workplaces. Since this method assesses the potential for occupationally related health problems, it has a number of advantages over disease surveillance as a measure of magnitude. As David Wegman et al. point out [14], the potential importance of hazard surveillance has increased with the current emphasis on "the right to know" and associated emphasis in education. Hazard surveillance can, as Wegman says, assist regulators, health planners, researchers and health educators in their various mandates, including: the setting of priorities for compliance programs, resource allocation and the development of focused training material.

This latter point is particularly relevant in Manitoba. A significant need for occupational health information, education and training in the area of occupational health was demonstrated through surveys and consultation.

Various lists of chemical substances with known toxic effects and associated with particular occupations or processes have been developed. For example, Jeanne Stellman [15] has compiled a long list of occupations and related exposures. Similar lists have been developed by NIOSH in the United States. A listing of "sentinel health events" by Rutstein et al., [16] would be particularly useful as a reference source for practising physicians, public health officials and community physicians. (See Appendix XI)

Once the Workplace Health Regulation comes into effect, employers will be required to develop inventories of potentially hazardous materials in their workplaces. Such inventories will provide useful data for a province-wide inventory specific to Manitoba. In the meantime, two currently available sources of data may prove of some use at least in identifying broad priority areas. These are:

- A listing of the type and quantity of chemical wastes produced by Manitoba industry (study conducted by Environment and Workplace Safety and Health.[17])
- Data about the type and quantity of workplace related analytical tests undertaken by the W.M. Ward Technical Services Laboratory. Figure 16 shows, for example, that in 1985, the largest number of contaminants sampled were lead, asbestos, copper, dust, manganese and nickel. Requests came from joint safety and health committees, physicians and the Workplace Safety and Health Division.

While such lists provide an indication of the existence of potential hazards, they do not provide information about actual exposure. A hazard surveillance system requires knowledge of actual exposure, based on hazard assessment in the workplace. Sources of these types of data in Manitoba include: inspection reports, orders made under the Act; joint safety and health committee minutes; industrial hygiene surveys and inquiries; laboratory data; as well as concerns and complaints made to the Workplace Safety and Health Division. External sources of information include existing occupational health services such as the MFL Occupational Health Clinic. Most of this type of information does not currently appear to be collected and available in a form conducive to analysis. It should be.

8.3 PERCEIVED NEEDS AND DEMANDS

The extent to which needs for occupational health services are expressed and/or perceived by employers and workers in the Province is of course influenced by a variety of factors, for example, compliance strategy and awareness levels. However, perceived needs influence the present demand for services against which the adequacy of currently available resources can be assessed.

Perceived needs of employers, workers, and occupational health professionals were assessed primarily through surveys and consultation workshops. In addition, an analysis of the recorded concerns and complaints received by the Workplace Safety and Health Division provided some indication of the level of expressed need.

8.3.1 Concerns/Complaints Analysis

Telephoned concerns/complaints received by the Division are recorded on forms and these were available for the years 1983-85 inclusive. The information was sufficient to distinguish safety-related from health-related concerns. Figure 17 shows that over three years, 77% related to a health hazard or a health effect. Workers' compensation claims, on the other hand, show that the vast majority of claims relate to occupational injuries. Similarly, a random check on joint health and safety committee minutes indicated that safety related items are dealt with much more frequently by committees than health items.

The emphasis on health related concerns suggests, perhaps, that whereas many workplaces have resources to turn to on safety matters, similar resources are not available for health issues. Joint committee co-chairpersons tended to confirm this theory during a consultation workshop. They pointed out that in many cases, committees did not have the information, resources or training necessary to deal with workplace health problems.

FIGURE 17

COMPLAINTS RECORDED BY THE WORKPLACE SAFETY AND HEALTH DIVISION
FOR YEARS 1983-85 BY TYPE OF COMPLAINT

Potential safety hazard	18.5%
Actual safety effect	3.1%
Potential health hazard	57.8%
Actual health effect	19.7%

8.3.2 Consultation Workshops

A summary of the points raised and noted during the consultation workshops held for this study is included as an Appendix to this Report. This summary provides some indication of the perceived needs and priorities for occupational health services among various interest groups. Frequently mentioned needs were:

- Need for a source of expert advice in occupational health for workers, employers and occupational health professionals;
- Lack of industrial hygiene services, facilities and monitoring equipment;
- The need for community/family physicians to be more knowledgeable about occupational health and workplace conditions;
- Lack of sources of expertise in the Province--especially in the areas of ventilation engineering, toxicology and audiology;
- Need for practical information and guidelines about identification and control of toxic chemicals, especially industry specific information;
- Guidelines and clarification about the roles and reporting relationships of occupational physicians and nurses;
- A great deal of emphasis was placed by all interest groups on the need for occupational health training and education for professionals, workers, managers and supervisors and joint safety and health committees. Many individuals expressed the view that more could be done within the workplace, if suitable training was provided;
- Many people felt that provision of industrial hygiene assessment services and facilities were a priority.

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9. Preventing Injury and Illness in the Workplace, Office of Technology Assessment. U.S. 1985.

10. Manitoba Health Services Commission Data and Department of Health Annual Report, 1985.

11. For example, see: Doll, R.; Peto, R. The causes of cancer: quantitative estimates of avoidable risks of cancer in the United States today. JNCI 1981; 66:1191-208.

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FIGURE 16

WORKPLACE CHEMICAL ANALYSES FOR YEARS 1983-85

CHEMICAL	NUMBER OF ANALYSES											
	WSHD			JOINT COMMITTEES			PHYSICIANS			TOTALS		
YEAR	83	84	85	83	84	85	83	84	85	83	84	85
Acetone	27	17	2			47				27	17	49
Aluminum	402	415	28							402	415	28
Arsenic	152	52	22				10	12	3	162	64	3
Asbestos	420	468	372				1		4	421	468	376
Avadex			1									1
Boron	5	15	24							5	15	24
Cadmium	521	419	61				4	1	1	525	419	62
Calcium	4	2	1			2				4	2	3
Chloride	4	17	1			1				4	17	2
Chromium	444	417	64							444	417	64
Cobalt	79	2	29							79	2	29
Copper	152	12	293			1		2	2	152	14	295
Cyanide		1	1								1	1
Ethyl acetate	27		24							27		24
Ethylene oxide		11	35			1					11	36
Flouride	4	35	1					1		4	36	1
Gravi-metric	527	492	420			2				527	492	422
Iron	516	417	328							516	417	328
Isocyanates	173	210	100							173	210	100
Isopropyl alcohol	36	5	1							36	5	1
Lead	1737	1621	1609			7	102	117	836	1839	1738	2445
Manganese	524	418	329			2	2	1	1	526	419	330
Mercury	417	52	24				122	105	42	539	157	66
Methyl Ethyl K	44	24	26							44	24	26
Nickel	516	417	327			1				516	417	328
Nitrate Nitrite	7	19	1			1				7	19	2
PCB	41	16	185		1	654	19		6	60	17	845
Potassium			1									1
Phenol	20		6			1				20		6
Phenoxy Acid			1									1
Polycyclic Aromatic Hydroc.		9	8								9	8
Selenium			9									9
Silica	19	44	2							19	44	2
Sodium Hydrox.		19	13			3					19	16
Sodium	4	15	20			3				4	15	23

CHEMICAL	NUMBER OF ANALYSES											
	83	84	85	83	84	85	83	84	85	83	84	85
Solvents (Iden)	6	22	65			6				6	22	71
Sulphate	29	17	1			1				29	17	2
Sulphuric acid	44	49	48							44	49	48
Tin	3	5	10							3	5	10
Toluene	63	20	11							63	20	11
Treflan			2									2
Trichlor-oethylene		12	5								12	5
Organics Scan	23	34	58		5	3				23	39	61
Xylene	28	14	11							28	14	11
Zinc	517	423	337			1	3	6	1	520	429	339
Flam. Liq.						1						1
Fuel Oil	13	3				1				13	3	1
Haz. Waste			?			6						
Magnesium	389	415				2				389	415	2
Benzene	2	7								2	7	
Chromic Acid		37									37	
Cyclohex ylamine		6									6	
Diethyl Glycol		7									7	
Formal-dehyde	193	6								193	6	
Hexane		11									11	
Phosphorus	2	1								2	1	
Pyridine	61	49								61	49	
Styrene	24	13								24	13	
Isoproplyl B	19									19		
Ethyl acrylate	33									33		
Ethyl B	19									19		
Freon	10									10		
Furfuryl alcohol	5									5		
Heptane	31									31		
Methyl chloroform	7									7		
Methylene Chloride	13									13		
Molybdenum	74									74		
Napthalene trimethyl benzene	19									19		
Varsol	13									13		
	8508	6816	5777	0	6	756	263	244	896	8771	7066	7429

CHAPTER 9

PERSPECTIVES ON OCCUPATIONAL HEALTH SERVICES IN MANITOBA

9.1 INTRODUCTION

The four surveys and ten consultation workshops (see Chapter 2) conducted for this Study provided a good indication of the perceptions of various interest groups, especially employers, labour and occupational health professionals about occupational health services. Their views about priority needs and the quality of existing services provided useful insights for this study.

9.2 PERCEPTIONS OF OH PROFESSIONALS--SIGNIFICANT SURVEY FINDINGS

The two surveys (occupational health nurses and occupational health physicians) provided an indication of what is available and of the range of occupational health services provided by these professionals. They also reflected the perceptions of these professionals about a number of the issues affecting occupational health services delivery.

Significant results considered below are under three headings: Professional Resources; Programs Provided; and Perceptions and Needs.

9.2.1 Professional Resources

Even though the physicians' survey probably tended to under-represent the present availablity of physicians providing occupational health services, it is clear that occupational health nurses represent a substantially larger resource than do occupational health physicians. (There are at least 47 full-time practising occupational health nurses in the Province.) However, as could be expected, most of these nurses work for large companies and 90% of them are based in Winnipeg. This suggests that small companies, especially those based outside Winnipeg, are unlikely to have access to their services.

Most physicians providing occupational health services do so on a part-time basis for one or more companies, but their primary occupation is the practice of general medicine. Many such physicians do not have the opportunity to relate to other disciplines involved in occupational health.

Both physicians and nurses represent a potential resource for occupational health, but the quality and scope of occupational health related services are dependent upon appropriate occupational health training. Only six of the nurses who completed questionnaires have so far obtained Canadian Occupational Health Nursing Certification. Since it will take time for this number to grow, attention must be paid to provision of appropriate seminars for occupational health nurses on an ongoing basis. Of the 25 physician respondents, only six indicated possession of specific occupational health qualifications. There is need for continuing education in occupational health issues for physicians providing part-time occupational health services in the Province. Professional associations as well as the University of Manitoba have a role to play in this regard.

9.2.2 Programs Offered

Occupational health nurses tend to provide a wider range of occupational health service programs than do physicians. This is understandable given the fact that there are only a few full-time practising occupational health physicians.

By contrast, many occupational health nurses work on a full-time basis in the Province. They provide services ranging form first aid to some technical aspects of occupational health including, in a few cases, air monitoring and hazard assessment. A significant number currently provide a valuable resource to provincial workplaces in the area of audiometric testing. They are to be commended for the initiative shown in obtaining certification in audiometric testing and thus providing one of the few resources available for implementation of the Noise Regulation in the Province.

On the other hand, a significant number of occupational health nurses provide a wide range of life-style fitness and health promotion programs. Given the scarcity of professional occupational health resources available in the Province, it may be that they should devote more time to aspects of occupational health service delivery, particularly in the area of workplace hazard assessment.

9.2.3 Perceptions--Needs, Issues

There was an interesting level of consistency among both occupational health nurses and occupational health physicians with regard to perceptions in several areas. For example:

- Both nurses and physicians were asked to indicate the most common health concerns in their experience. In both cases, the most frequently mentioned "first most important concern" was "musculo/skeletal". This indicates that attention to ergonomics should be stressed in occupational health service programs, with appropriate attention to related training needs. Nurses and physicians were also generally in agreement in identifying the most common health hazard types. Both most frequently mentioned physical hazards (e.g. noise) as the first most commonly encountered type. While awareness of noise may have been stimulated by the recent Noise Regulation, it is surprising that toxic chemicals were not mentioned more frequently. This may suggest a need for training in health hazard identification techniques.

- Both physicians and nurses were remarkably consistent in their expressed training/information needs. The three most frequently mentioned needs for both were: etiology of occupationally related disease; workplace health hazard assessment; and symptoms of occupational disease. Ergonomics and occupational health legislation were also frequently mentioned by both groups.

- Occupational health nurses most frequently mentioned the need for access to an occupational health physician and also to an industrial hygienist. Physicians most frequently mentioned the need for access to industrial hygienists. These responses tend to confirm the impression that occupational health nurses and physicians in the Province tend to work in isolation from other specialists in the field. In the nurses' case, this may be due in part to confusion within the organization about their roles, and about their relationships to other functions such as safety and personnel. Companies should perhaps consider the need for closer organizational integration between safety, industrial hygiene, medical, engineering and nursing functions. A lack of coordination between various occupational health functions is also apparent within the wider system and has been commented upon in Chapter 3 and in Part C.

- A significant number of both nurses and physicians felt that the current procedures for the reporting of occupational disease were not clear to them. This is hardly surprising since, apart from the legal requirements in the Workers' Compensation Act, there is no clear or comprehensive requirement in law for the reporting of such diseases.

9.3 LABOUR AND MANAGEMENT PERCEPTIONS--SIGNIFICANT SURVEY RESULTS

Two surveys were undertaken in order to obtain input from both management or employers and workers and trade union representatives. One of these surveys was targeted specifically at workers and union representatives. The other, conducted through WorkSafe!, could not be specifically targeted at management/employers. However, at least 50% of the respondents to this survey represented managers or owners. The remainder of the respondents represented workers, joint committee members or union officials. For this reason, it is of some interest to compare the results of similar questions in both surveys. Results are surprisingly similar in some areas, but different in others. For example:

- o Respondents in both surveys were asked to indicate whether or not they had access to various other occupational health professionals. The results of both surveys here are fairly similar, suggesting reasonable confidence in the comparative general availability of such professionals in Manitoba. See Figure 18 below:

FIGURE 18

ACCESS TO OCCUPATIONAL HEALTH PROFESSIONALS

TYPE OF OCCUPATIONAL HEALTH PROFESSIONAL	PERCENT SAYING YES	
	WorkSafe!	MFL
Occupational Physician	19	24
Occupational Nurse	26.7	31
Industrial Hygienist	6.5	10.6
Audiologist/audiometric Technician	17.3	34

- o Responses about the availability of various occupational health services were similar with respect to health education programs, regulations, medical examination programs and industrial hygiene programs. However, the MFL survey suggested a greater availability of audiometric testing and pre-employment medical examination programs than did the WorkSafe! survey.

- Both surveys asked respondents to indicate what they believed to be the most important occupational health services. Here the results are not similar. The MFL survey respondents placed greater emphasis on the need for health education programs than did WorkSafe! survey respondents who tended to emphasize regular medical examinations and fitness programs.

- Both surveys asked respondents to indicate what they believed to be the most important health hazard. Again, there were significant differences in the response of each survey. WorkSafe! respondents placed greater emphasis on toxic chemicals than did MFL respondents. In both cases, however, emphasis was placed on the importance of mechanical safety hazards.

Other general conclusions which may be drawn from these surveys are:

- On the whole, both workers and managers perceive a need for regular medical examinations. Comments made in the MFL survey indicate, however, that there are a number of concerns about how such programs are conducted.

- In terms of both the availability of occupational health professionals and of occupational health service programs, it would appear that physicians, nurses, and occupational medical programs are generally more available than industrial hygienists or hazard assessment programs. At the same time, it seems that neither group places a particularly high priority on the provision of this type of service. This would appear to be somewhat in contradiction with the comparatively high priority given to toxic chemicals as a health concern in the WorkSafe! survey.

- Labour groups place a high priority on the provision of health hazard education.

- Labour groups feel strongly that joint committees could play a more active role in occupational health than they currently do, and that this might be achieved by improving training for both management and committee members, as well as by increased in-plant activities in occupational health programs.

- A lack of money and the size of the workplace (ie. smallness) are seen by both management and labour as being major barriers to the provision of appropriate occupational health services.

9.4 CONSULTATION WORKSHOPS--SIGNIFICANT ISSUES

A full summary of points raised and noted during consultation workshops is included as an Appendix to this Report (Appendix 5). Included here is a list of the points on which there appeared to be a reasonable consensus between management and labour and a list of those points on which no such consensus was clear. While these lists provide an indication of consensus and are therefore helpful in considering options for occupational health service delivery, they should not be taken as a definitive statement of consensus among all labour and management groups.

9.4.1 Labour/Management Consensus Points

- There is need for an expert referral source for service providers as well as for employers and workers.

- There is a significant lack of industrial hygiene services and personnel in Manitoba.

- It is difficult to obtain equipment (and which is often expensive to buy) in order to do environmental monitoring in workplaces.

- The University of Manitoba could be considered as a suitable base for a source of independent, expert occupational health advice or provision of other occupational health services.

- Occupational health services could be provided through the public health system or through regional hospitals.

- Joint safety and health committees do not currently play as effective a role in the workplace as they might .

- Joint committees need more occupational health training and information. Current Workplace Safety and Health Division training is not adequate.

- Occupational health professionals could report to joint committees with regard to programs and progress.

- Enforcement should be separated from provision of services, including advice, training, and industrial hygiene.

- Information about the health hazards associated with particular industries should be collated and made available.

- Community health services could be used as a local resource for occupational health, especially in areas of information and education.

- Managers need to know more about occupational health--they require training.

- Local/family physicians providing part-time occupational health services need to know more about occupational health and about the workplace. Generally, all physicians need to know more about occupational health in order to recognize work-related illness.

- There is need for a source of independent, expert and practical information about occupational health.

- Small companies need financial help for occupational health services.

9.4.2 Points of Difference

- There should be no private sector involvement in provision of occupational health services (Labour).

- Workers should choose their own physician for occupational health purposes, preferably their own family physician (Labour).

- Occupational health services should be funded by the WCB or directly by the government (Labour).

- Occupational health services should be funded on a "fee-for-service" basis (Management).

- Joint safety and health committees cannot play a more effective role in occupational health unless they are given wider legal powers (Labour).

- Occupational health professionals cannot be independent if employed by a company; they should all be employed by the government (Labour).

- Employers have a right to select occupational health professionals if they are to pay for them (Management).

- Worker occupational medical examinations and test results must never be provided to employers (Labour).

- Employers need to know the results of some biological testing in order to take appropriate and timely corrective action in the workplace (Management).

- MFL occupational health clinic is not seen as independent by employers; referral will result in a compensation claim (Management).

- Workers need access to their own labour controlled clinics (Labour).

CHAPTER 10

CURRENT STATUS OF OCCUPATIONAL HEALTH SERVICES AND RESOURCES IN MANITOBA

10.1 INTRODUCTION

This Chapter reviews the current status of occupational health services and related resources in Manitoba in terms of availability, adequacy and effectiveness. The review relies upon information obtained from the surveys conducted for this Study, consultation workshops and personal interviews.

The availability and adequacy of existing resources are an important determinant of what additional services and resources are needed. Other measures of need have been discussed in Chapters 8 and 9.

The current status of existing resources and services are considered below under appropriate headings.

10.2 OCCUPATIONAL HEALTH CLINICS OUTSIDE THE WORKPLACE

The Manitoba Federation of Labour Occupational Health Centre was opened in 1983 with block funding from the Department of Health. It supplements its revenue with donations and provides free services. It receives policy direction from a Board of Directors consisting mainly of Directors nominated by the MFL and an Advisory Council. It provides diagnostic medical services, information and advice about workplace health hazards and training on request. During the year 1985/86, the Clinic saw 328 new patients and 232 returning patients (77% of which were union members). In the same year, the Centre handled 229 requests for information (33% from labour, 24% from individual workers, 8% from students, 18% from occupational health professionals, 7% from management and 10% from government). The Centre has an information resource base which is available to the general public.

Staffing for the Centre consists of an executive director, an occupational health nurse, occupational physicians, an industrial hygienist, and clerical support.

The Centre is well regarded by unions and workers, judging from comments made during consultation workshops. Currently, it provides the only specialist centre to which individual workers with occupationally related health concerns may refer at no cost to themselves. On the other hand, there will always be limitations on its potential clientele. During workshops, a number of workers commented that the MFL did not represent all unions in the Province. In addition, many employers may be reluctant to use the Centre.

The Victoria Health Guard Inc. is an independent, non-profit corporation physically located in the Victoria General Hospital. Although independent from the Hospital, it was funded in 1985 by the Hospital's research fund and enjoys a cooperative arrangement with the Hospital. Its mandate is to provide health promotion services to the community (defined as province-wide in scope) and this includes occupational health.

It is governed by a Board of Directors consisting of five hospital nominees, five community representatives (including labour and employer representation) and 5 nominees representing the hospital funding source. On-going funding is based on fees for service with the aim of operating, eventually, on a cost recovery basis.

The Victoria Health Guard can not really be described as a clinic since it does not currently offer medical diagnosis or screening. At the present time, its major service is in the area of hearing conservation, meeting demand stimulated by the implemenation of the Noise Regulation (under the Workplace

Safety and Health Act). A mobile unit has been purchased enabling the Victoria Health Guard to service clients outside Winnipeg. As well, the Victoria Health Guard is beginning to develop a client base among employers for workplace health hazard assessment, consultation services and has plans to recruit an industrial hygienist. It is attempting to establish "joint venture" programs in which a number of companies which are in close proximity and with similar problems, share services.

The Victoria Health Guard has been in existence for less than a year, at the time of writing, and so far, appears to have been reasonably successful in attracting clients. This suggests that a level of demand for occupational health services exists even before the Workplace Health Regulation comes into force. However, its mandate does not cover occupational health exclusively and this may limit its occupational health service activities if its priorities change.

Another potential source of certain occupational health services in Manitoba are in-plant resources which could be made available to other workplaces on a fee paying basis. Such an example is the federally regulated Atomic Energy establishment (AECL) at Pinawa. This establishment has facilities and expertise, particularly in the area of industrial hygiene and laboratory analysis, which could be made available to other workplaces. Indeed, since the commencement of this study, AECL have undertaken a feasability study of just such an initiative.

10.3 IN-PLANT OCCUPATIONAL HEALTH SERVICES

Some services are provided in-plant by larger organizations. Study surveys provided an indication of their availability in Manitoba workplaces. These surveys indicated a greater availability of life-style health programs than of hazard assessment programs. For example, the MFL survey showed that 52% of respondents' workplaces had access to employee assistance programs compared with only 17% having access to industrial hygiene surveys. Results of the WorkSafe! survey were similar. Both surveys also showed pre-employment medical examinations were more common than regular examinations or biological monitoring.

For the most part, occupational health services existing in Manitoba workplaces are delivered by occupational health nurses and to a lesser extent, by physicians outside the workplace. Small workplaces, as might be expected, showed substantially less availability of services. For example, in the WorkSafe! survey, only 5% of workplaces with 10 or less workers indicated that industrial hygiene surveys were available.

10.4 OCCUPATIONAL HEALTH PROFESSIONALS

10.4.1 Occupational Health Physicians

The writer was unable to locate any full-time occupational health physicians employed in provincially regulated Manitoba workplaces. Several are employed in federally regulated workplaces, for example Labour Canada and AECL at Pinawa. In addition, several are employed by the MFL Occupational Health Centre. Of the 25 physicians responding to the survey (see Chapter 2), only 12 indicated that they worked in the field of occupational medicine, and of these, only six were qualified in occupational medicine.

Forty-eight of the nurses responding to their survey said their workplaces employed a physician, mostly on a part-time or casual basis. According to the MFL survey, about 35 workplaces have access to a physician. The WorkSafe! survey indicated that about 98 respondents' workplaces had such access. Allowing for double counting of workplaces, and for the fact that some physicians may serve several workplaces, it would be reasonable to assume that there are about 50 physicians providing certain occupational health services for some part of their time in Manitoba. Most of these physicians are not certified in occupational medicine.

10.4.2 Occupational Health Nurses

Of the 71 Occupational Health Nurse Survey respondents, 47 were working full-time as occupational health nurses and only six indicated possession of Canadian Occupational Health Nursing Certification. However, more than half had taken the Red River Community College Occupational Health Nursing Program. Forty-one nurses had also obtained audiometric technician certification. Most of these nurses worked for companies or government and 90% were located in Winnipeg.

Occupational health nurses certainly constitute the most available source of occupational health resource in the Province compared with other disciplines. But occupational health nurses face certain problems in providing occupational health services. Many feel that their role in the organization is not clearly understood, and the relationship between their roles and those of other safety and health personnel in their workplaces is also not clear. Moreover, their programs are often more oriented to lifestyle promotion than to workplace related health concerns and hazards.

10.4.3 Industrial Hygienists

A recently formed section of the American Industrial Hygiene Association (AIHA) in Winnipeg has about 40 members. Not all of these members work as industrial hygienists. Further, it seems unlikely that there are more than two certified industrial hygienists in the Province. The surveys showed that industrial hygiene services are in very short supply in Manitoba workplaces. The proposed Workplace Health Regulation will place severe strains on these limited resources. The lack of any industrial hygiene programs at the university or community college level will not help alleviate this problem.

10.4.4 Ventilation Engineers

Several employers commented during consultation workshops on the difficulties of obtaining specialist industrial ventilation engineering advice in Manitoba. Since ventilation is often a critical part of control techniques for toxic substances, access to this type of advice is important. Although there are a number of consulting engineering firms in Winnipeg, the fact that the Engineering School at the University of Manitoba includes training in office ventilation, but not industrial ventilation of itself, suggests a shortage of such specialist advice in the Province. Recently, the local section of the Amercian Society of Heating, Refrigeration and Ventilation Engineers met with staff of the Workplace Safety and Health Division to discuss the possibility of encouraging the University of Manitoba to include continuing education courses on industrial hygiene for their members. Such initiatives should be encouraged.

10.5 ADEQUACY OF SERVICES

The perceptions of employers, workers and other interest groups about the adequacy of existing services have been discussed in a previous Chapter.

In addition, recently publicized cases of lead exposure in Manitoba workplaces have highlighted a number of problems concerning the quality and effectiveness of occupational health services in the Province. In particular, it was apparent that secondary prevention (medical monitoring) was not suitably complemented by primary prevention.

10.6 EDUCATION AND TRAINING RESOURCES

Training and education is needed for occupational health professionals and for those in the workplace with an interest in, or responsibilities for, occupational health. In both areas, available resources in Manitoba are limited at the present time.

10.6.1 Training for Occupational Health Professionals

Present resources are limited in Manitoba. The recent recognition of occupational health as a separate speciality by the Canadian medical profession provides an opportunity for the University of Manitoba Faculty of Medicine to establish a residency program in occupational medicine.

For nurses, the Red River Community College currently offers a certification course in Occupational Health with emphasis on Occupational Health Nursing which a significant number have obtained according to the Occupational Health Nurses' survey. However, it has not been perceived by all as particularly satisfactory and there are currently moves to review and revise it. In addition, however, the University of Manitoba's School of Nursing should consider offering post-graduate programs in occupational health nursing as part of community nursing or continuing education. This would provide an opportunity for more advanced and specialized occupational health training for practicing occupational health nurses.

No courses are currently available for the training of industrial hygienists in the Province.

Ergonomics has an important role in occupational health programs and service providers might benefit from training in this field. The Chiropractic profession is to be commended for its initiative in establishing, on a national basis, a 120 hour course on ergonomics. Given the emphasis placed on musculo-skeletal problems by survey respondents, increased knowledge and application of ergonomics in Manitoba workplaces should be encouraged.

The need for training for everyone in the workplace, including managers, workers, and joint safety and health committee members, was emphasized many times in consultation workshops. Currently available resources are limited including only:

- A Certificate program in Occupational Health and Safety offered by the University of Manitoba through its Continuing Education program. This program includes some courses at the general and advanced level in occupational health and in industrial hygiene.

- The Workplace Safety and Health Division offers general courses in occupational health and safety on a regular basis directed specifically at joint safety and health committee members. The occupational health content of these courses is limited.

- The Manitoba Safety Council offers some courses in occupational safety, but at the present time, none in occupational health.

- The Labour Education Centre (Manitoba Federation of Labour) through government funding, offers several two day courses, again primarily designed for joint committee members. These courses have some occupational health content.

- The Manitoba Federation of Labour's Occupational Health Centre provides some occupational health training seminars on request.

10.7 UNIVERSITY RESOURCES

Universities may be considered a potential resource in the areas of research, teaching, information generation, and to some extent, also direct service provision. In particular, the Faculty of Medicine at the University of Manitoba has the potential to provide such resources.

The Faculty's sections of Community and Northern Medicine and Social and Preventive Medicine, which are currently considering a merger, both have a greater orientation towards preventive medicine generally than do other aspects of medicine. Community and Northern Medicine is currently considering the adoption of a formal role in occupational health, including an

Occupational Health Clinic and a residency in occupational medicine. These initiatives should be encouraged to develop within the framework of appropriate guidelines discussed in this Report (see Part C).

10.8 PUBLIC HEALTH PERSONNEL

The role of public or community health has been discussed elsewhere in this Report (see Chapter 3). In this regard, it is interesting to note that both Medical Officers of Health and Public Health Nurses have played a useful and direct role in several occupational lead exposure cases in the Province.

10.9 LABORATORY FACILITIES

Laboratory facilities play an important role in the identification and assessment of workplace health hazards. The provincial government's W.M. Ward Technical Services Laboratory provides such services for both environmental and occupational programs. There is evidence that the number of requests for workplace analyses has been growing in recent years. Implementation of the Workplace Health Regulation can be expected to result in further increases. So far, the Laboratory provides its services free to provincially regulated workplaces. This policy may need to be reviewed as the demand for services grows.

The Laboratory might also consider a role in the provision of training in environmental sampling for service providers as well as workplace personnel. Since it appears that employers and others in the workplace have difficulties in obtaining sampling equipment, the Laboratory might also consider renting out such equipment.

Since the commencement of this Study, the Manitoba Research Council's Industrial Technology Centre has also expressed an interest in making its resources available for occupational health programs - specifically in the area of chemical hazard identification and assessment.

PART C

ADDRESSING THE PROBLEMS IN MANITOBA
DISCUSSION AND RECOMMENDATIONS

INTRODUCTION

This Part considers how the various problems which have been identified throughout the Report may be addressed to ensure appropriate provision of occupational health services in Manitoba, now and for the future. As previously discussed, the needs for occupational health services cannot be considered in isolation from other key components of an effective occupational health system. To be cost effective, and to ensure that the health problems of Manitoba workers are effectively addressed, services must be directed to clearly identified problems and priorities. In addition, services must be provided in ways acceptable to key players and meet high ethical and practical standards.

Problems, options and recommendations are therefore considered under three major headings as follows:

Chapter 11 - The Policy Framework
Chapter 12 - Service Delivery
Chapter 13 - Ensuring Effective and Acceptable Service Delivery

CHAPTER 11

THE POLICY FRAMEWORK

11.1 INTRODUCTION

In order to ensure that occupational health services are appropriately directed where they are needed and that the services provided are adequate, needs assessment is necessary at the provincial level as well as at the workplace level. The inability of the present information bases at the provincial level to estimate the incidence or nature of occupational disease and exposure problems in Manitoba workplaces has been extensively discussed in Chapter 8. In addition, the present government framework affecting occupational health was discussed in Chapter 3. In this latter chapter, it was pointed out that in addition to the Department of Environment and Workplace Safety and Health, the Department of Health also has a significant potential role to play.

11.2 RECOMMENDATIONS

To meet these problems and to ensure that the role and functions of the provincial government in relation to occupational health are clarified, and that the government can provide a suitable regulatory framework for the orderly development and operation of occupational health services in the Province, the following recommendations are made:

RECOMMENDATION A: **The Department of Environment and Workplace Safety and Health give priority to the development of an occupational disease and hazard surveillance system in cooperation with current federal/provincial government initiatives in this area.**

The development of information bases necessary to establish such a system will not only enable the identification of priorities and needs for regulatory policy, it will also assist industries and particular workplaces in identifying their own needs. To facilitate such initiatives, the information generated should be disseminated through appropriate educational and other forums.

Implementation of Recommendation A will require the cooperation of the Department of Health which is in a position to collect much of the information necessary for occupational disease surveillance. To facilitate this, the following is recommended:

RECOMMENDATION B: That the Department of Environment and Workplace Safety and Health and the Department of Health develop formal structures to ensure that necessary cooperation between these two Departments takes place in the development of an occupational disease and hazard surveillance system. To facilitate such cooperation, the Department of Health should review its role with regard to occupational health and identify the part it can play in the prevention of occupational disease, with particular reference to its health service functions.

In addition, it will be necessary to ensure that the Workplace Safety and Health Division of the Department of Environment and Workplace Safety and Health is organized to ensure that policy development and information generation in the area of occupational health is given appropriate emphasis. It is therefore recommmended :

RECOMMENDATION C: That occupational health be given a clear multi-disciplinary focus within the Workplace Safety and Health Division and staffed accordingly, including a full-time Chief Occupational Medical Officer and an Occupational Health Nurse. Functions to be addressed include: the development of an occupational disease and hazard surveillance system as recommended above; the development and dissemination of related information;

the development of occupational health educational resources; the development of standards and guidelines; and the identification of regulatory priorities.

The Division should develop procedures to ensure that appropriate communication and collaboration takes places in the design and execution of occupational health policies and programs between the various disciplines represented by the staff of the Division.

Chapter 6 outlined the current status of the medical and nursing component in terms of the Act's mandate and functions within the Division, and the need for clarification in this area. It is therefore recommended :

RECOMMENDATION D: The legal mandate and functions of the Chief Occupational Medical Officer and the Occupational Health Nurse under the Workplace Safety and Health Act and its regulations should be reviewed and clarified to ensure that medical aspects of occupational health, including medical monitoring, health investigation and epidemiology, are addressed. In particular, the Chief Occupational Medical Officer should be provided with the legal power to designate workplaces requiring occupational health services under Section 52 of the Act.

> Organizational functions and responsibilities of the Chief Occupational Medical Officer and the Occupational Health Nurse within the Division should be clearly defined and should include:
>
> - assistance in the development of the surveillance system recommended above;
> - the development of standards and guidelines for medical monitoring procedures and practices;

- the review and audit of existing occupational health services whether in-plant or provided outside the workplace;

- the review of existing legislation affecting occupational health services as discussed in Chapter 6;

- liaison with professional associations; and

- development and dissemination of educational material.

- provision of information to practising occupational health professionals.

CHAPTER 12

SERVICE DELIVERY

12.1 INTRODUCTION

This Chapter considers how the present availability of occupational health services in Manitoba can be appropriately increased in order to meet current and future needs. The extent to which occupational health services are needed at the present time has been discussed in Chapter 8. While it is difficult to arrive at a quantitative estimate of such needs, it is clear that certain services, for example, industrial hygiene and education, are in very short supply. Demand for services can be expected to increase once the Workplace Health Regulation is implemented. This Chapter considers and makes recommendations about how present availability of services can be increased and about suitable and acceptable delivery models.

12.2 LIMITING FACTORS

In deciding upon suitable delivery models and how occupational health services availability might be increased, a number of important limiting factors in Manitoba must be considered. These are:

- **Manitoba Demographic and Geographic Characteristics**: The working population of Manitoba is heavily concentrated around Winnipeg, especially in the manufacturing sector, with the rest scattered in relatively remote small communities. This fact has traditionally caused problems for health care provision. In the Interlake health region, for example, the doctor/population ratio is 1/1914, compared with 1/639 in Winnipeg. Provision of a complete range of medical specialties in each community would be an impossibly expensive proposition. It is for this reason that the University of Manitoba, Faculty of Medicine's section on Community and Northern Medicine includes a significant service component. For the same reason, provision of a comprehensive occupational health service in each community would not be a practical proposition. Instead, consideration must be given to (a) making maximum use of potential local resources such as public health personnel and local physicians and/or (b) providing mobile services from a central base.

- **Lack of Private Sector Activity** **(Multi-plant service providers) :** There is currently little evidence of private sector activity in the occupational health service field in Manitoba, with the possible exception of audiometric testing services. A Toronto based organization, the Company Nurse, apparently tried and failed to establish a base in Winnipeg. Implementation of the Workplace Health Regulation cannot of itself be expected to result in a substantial increase in awareness of occupational health hazards. Even with an increase in demand, it is unlikely that many specialized private service deliverers would find a large enough market in Manitoba. The Government may therefore have to play a larger role in facilitating the delivery of services but not necessarily to the extent of discouraging any private initiative.

- **Present Awareness/Demand Levels:** Work undertaken for this Study indicates that present awareness levels about occupational health hazards are low among workers, managers and supervisors, and employer/owners and this influences demand. Demand levels may be stimulated in a number of ways, for example, through enforcement, through regulation, through designation of workplaces requiring occupational health services, and through education and training. Any additional service provision should, initially, be geared to a low demand level but should be capable of expansion as demand grows. Emphasis should be placed on the provision of occupational health education and training for workers, managers, supervisors and employer/owners.

- **Perceived Needs/Concerns**: Surveys and consultation workshops have shown that the various interest groups all express a need for sources of expert, independent advice and information of a practical nature. This is not only true of workers, unions and employers, but is also true of currently practising occupational health professionals, especially nurses.

  There are also expressed concerns about the practices and procedures involved in health service delivery and especially about the perceived independence of occupational health professionals.

- **Community Health Clinics**: A community health clinic policy has not received much emphasis in Manitoba. Presently, existing clinics are few in number and do not include a wide range of services. The Department of Health is currently reviewing the role and potential of community health clinics. In doing so, consideration should be given to a possible role for community health clinics in the provision of certain occupational health services.

- **Information Base Limitations**: Currently available information bases are inadequate for purposes of estimating needs for occupational health services in particular industries in Manitoba. Until such information bases have been developed, so that particular needs and priorities can be identified, the provision of comprehensive occupational health services for all Manitoba workplaces cannot be justified.

- **Acceptability Criteria**: Increasingly, occupational health service delivery involves sensitive issues and these have been discussed in Chapter 5. The existence of these issues strongly suggests the need for any occupational health service to have formally organized labour/management policy input.

Information collected for this Study suggests that there is no clear consensus among the various interest groups about how occupational health services should be provided. Even within particular interest groups, there does not appear to be a consistent view on this issue. Among occupational health professionals, nurses showed a preference for in-plant services and community occupational health clinics while physicians showed a preference for full or part-time contracts with employers. The MFL survey showed preference for in-plant services and union clinics. In these cases, expressed preferences probably do no more than reflect the status quo. During consultation workshops, a number of models were suggested for Manitoba including a university-based clinic, provision of services by public health personnel, local hospital-based services and labour clinics.

Despite the lack of consensus, it is fairly clear that acceptability to both employers and labour depend fairly critically upon (a) the perceived independence of the service and (b) provision for labour/employer policy input.

- Small Workplaces: In Manitoba, some 90% of Manitoba workplaces employ less than 25 employees. The predominance of small workplaces is not unique to Manitoba, but they tend to be more diversified and more independent than they are in other provinces.

  The special problems faced by small firms in occupational health and safety programming generally have been much discussed in Canada and elsewhere. However, to date, little has been done to address these problems in Canada.

  As Ashford and others point out, the per capita costs of providing health and safety programs tend to be greater for small firms than for large firms. As Ashford also reasons, health and safety measures tend to be less economically viable for small businesses which are often in a less stable competitive position. But small firms may be necessary to the economy and encouraged as a matter of economic policy. In such circumstances, it may be necessary to provide special assistance to small firms if social and economic policy dictates both the need for small firms and for all workplaces to be safe and healthy, for as Ashford says: "Without special provisions for small firms, it is likely that public policy regarding occupational safety and health will further accentuate economic forces tending to undermine the viability of small businesses."

Another problem posed by small firms is the low levels of knowledge and awareness about occupational health problems compared with larger undertakings. In a study of 99 small workplaces in Finland, Heikkila et al. found that employers themselves identified significantly fewer hazards than those identified following industrial hygiene assessments. The surveys and workshops conducted for this Study tend to support this argument in Manitoba. Toxic chemicals and industrial hygiene services were not given a high priority generally in the surveys. On the other hand, both surveys and the consultation workshops showed a significant perceived need for occupational health education and training.

Small firms are not generally in a position to do the research and engineering necessary to develop effective control measures. This is particularly true in the case of health hazard controls which tend to be expensive. Generally, small firms must depend upon larger firms in the same industry for information in this area. This suggests a role for Trade Associations in Manitoba, to the extent that they exist.

A number of studies have confirmed the need for occupational health services in small firms using either existence of hazards or incidence of work-related injuries and illnesses as measures. The Finnish study referred to above, which attempted to evaluate the extent and nature of health hazards in small workplaces, found that 63% of firms surveyed required preventive measures for noise, 24% for solvents and 43% for lighting conditions. Other hazards identified as requiring preventive measures included dusts, welding fumes, carcinogenic substances and toxic metals. Workers' compensation data in Ontario suggest that the accident incidence rate in the manufacturing sector is higher in small firms than in large firms.

In Manitoba, firms with less than 20 employees in the manufacturing sector account for 20% of the employment in that sector. Construction, also a relatively hazardous industry, also has a significant representation of small firms. Workers' compensation claims experience in Manitoba shows a significant number of claims in firms with 21 or less employees. In 1985, approximately 40% of all accepted claims were from workplaces with less than 21 employees (see Chapter 8). A study currently being conducted by the Workplace Safety and Health Division to assess the impact of the proposed Workplace Health Regulation on small firms will provide further evidence of the extent and nature of their need for occupational health services in Manitoba.

It can be concluded that small firms require access to occupational health services which are external to the workplace and which are, at least for some, provided at a subsidized rate. Initial needs are likely to focus heavily on services to assist in identification of hazards and for education and training. The development of industry-specific occupational health guidelines would be particularly useful to small firms.

- Occupational health services already exist in some workplaces. There are also some occupational health services already offered to workplaces as discussed in a previous chapter. To provide and mandate the use of a specific model would pose difficulties for existing services and those who provide them.

- There is a current shortage of trained professionals in the Province.

12.3 OPTIONS FOR INCREASING SERVICE AVAILABILITY AND RECOMMENDATIONS

Three possible options may be considered for increasing the availability of occupational health services:

- Do nothing and hope that private sector activity will grow to meet demand;

- Provide regionally based occupational health services through community health or regional hospitals and mandate the use of these by all workplaces; or

- Provide a framework for the orderly deployment of existing services and the development of new services as needs and priorities are identified.

Given the limitations described above, the third option is recommended. Recommendations relating to the implementation of this option are outlined below and are designed to increase the effectiveness of existing resources and provide for the development of new services.

RECOMMENDATION E: The Government should facilitate the establishment of a multi-disciplinary core unit, which is separate from the occupational health and safety regulatory agency (Workplace Safety and Health Division of the Department of Environment and Workplace Safety and Health), to coordinate existing services and to provide or facilitate provision of services not currently available.

Major functions of the Core Unit would include:

- Coordination of existing occupational health services. This would include the identification of such services, stimulating the supply of new services and matching supply with demand.

- Provision of certain occupational health services for which there is an identified need and demand but which are not elsewhere available at any given point in time. It is likely that the most pressing need will be for industrial hygiene services once the Workplace Health Regulation comes into effect.

- Provision of expert information and advice to government, labour, employers and occupational health professionals.
- Assessment and provision of independent expert advice on major cases involving suspected occupational health hazards.
- Facilitating provision of occupational health services in areas outside Winnipeg as needs are identified.

The Core Unit could be established in a number of ways, as a free standing "bricks and mortar" institute, affiliated with Community Health (Department of Health) or affiliated with the University of Manitoba (e.g. with the Department of Community and Northern Medicine or with the Health Sciences Centre). Funding required would depend upon the implementation option chosen--clearly a free standing "bricks and mortar" institute would require more initial funding than other options. An element of cost-recovery could be built into the operating concept for the Unit. Possible sources of initial funding include the Workers' Compensation Board, the Manitoba Health Services Commission and the Winnipeg Foundation.

The Department of the Environment and Workplace Safety and Health should consult with the University of Manitoba and the Manitoba Health Services Commission to consider the most most feasible and cost effective option for establishing the proposed Unit. In the first instance, emphasis should be placed on establishing a coordination function.

However established, the proposed Core Unit should meet a number of important criteria in order to ensure effectiveness as well as acceptability to employers and labour. These are:

- The need for bi-partite (labour/employer) policy direction.
- The need to ensure organizational separation of regulatory and service functions.

- The need to ensure that its occupational health service providers are perceived as independent by employers and workers.

- That staffing and functions of the unit reflect, as far as possible, the multi-disciplinary nature of occupational health. In particular, functions of the Unit should emphasize primary prevention.

- The Core Unit should aim to operate on a cost-recovery basis within a reasonable time frame but ensuring full accessibility for small workplaces.

RECOMMENDATION F: That regional Community Health Departments play a role in the coordination of local occupational health services and assist in some direct service provision in cooperation with the recommended Core Unit. This would help ensure that, where feasible, valuable and scarce resources are made available for occupational health prevention programs, especially in communities outside Winnipeg. In addition, such a role would be in keeping with the Provincial Government's stated commitment to prevention in the health care field.

RECOMMENDATION G: That the Government encourage and facilitate provision of appropriate education and training to key players to increase effectiveness of existing resources.

In particular, attention should be paid to training needs in the following areas:

- Training of joint safety and health committee members in environmental assessment and control techniques;

- Continuing education for family physicians in occupational health.

- Increased availability of training programs in industrial hygiene. For example, the universities might be encouraged to provide an intensive training program in industrial hygiene for personnel in industry with related backgrounds (e.g. industrial chemists, engineers, lab technicians, and occupational health nurses).

- Post graduate and diploma courses in occupational health nursing.

CHAPTER 13

ENSURING EFFECTIVE AND ACCEPTABLE SERVICE DELIVERYS

13.1 INTRODUCTION

Previous Chapters of this Report have detailed the various concerns which exist about the practice and procedures involved with occupational health services, especially in the areas of medical monitoring. These issues must be addressed both for existing services and in the development of new services. While consultation for this Study provided an indication of consensus in some areas, for example with regard to the role of joint safety and health committees, it is stressed that further consultation will be required as the standards and guidelines recommended below are developed.

13.2 RECOMMENDATIONS

RECOMMENDATION H: That the Department of Environment and Workplace Safety and Health draft a regulation and/or appropriate codes of practice setting out standards and guidelines for the delivery of occupational health services whether provided in-plant or externally and whether legally required or provided on a voluntary basis. In developing such guidelines, it is strongly recommended that the 1985 ILO Convention on Occupational Health Services be used as a basic reference point.

RECOMMENDATION I: That the Chief Occupational Medical Officer be assigned the role of reviewing medical monitoring procedures on an ongoing basis and of providing information and guidelines about validity and appropriate use to all occupational health service providers, to joint committee members, to unions and to employers.

RECOMMENDATION J: That the Workplace Safety and Health Act be amended so as to provide joint safety and health committees or worker representatives, as the case may be, with the right to be consulted about the selection of occupational health professionals and to receive regular reports from them at regular intervals about program plans, results and recommendations.

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OCCUPATIONAL HEALTH SERVICES STUDY

APPENDICES

APPENDIX I

OCCUPATIONAL HEALTH NURSES' SURVEY QUESTIONNAIRE AND SURVEY RESULTS

NURSES QUESIONNAIRE

Manitoba
Environment and
Workplace Safety
and Health

1. What year did you graduate as a nurse?

☐ 1940-50 ☐ 1951-60 ☐ 1961-70 ☐ 1971-80 ☐ after 1980

2. Please indicate your age category:

☐ 20-30 ☐ 31-40 ☐ 41-50 ☐ 51-60 ☐ 61-65

3. Please indicate your qualifications:

☐ Licenced Practical Nurse
☐ Baccalaureate Degree, Nursing
☐ Baccalaureate Degree, Other
☐ Registered Nursing Diploma
☐ Masters Degree, Nursing
☐ Other, please specify ______________________________

4. Are you a Canadian Certified Occupational Health Nurse?

☐ YES ☐ NO

5. If NO, are you planning to obtain certification with the next 2-3 years?

☐ YES ☐ NO

6. What continuing education courses have you completed?
(Check as many as applicable)

☐ RRCC OH Nursing Program
☐ Spirometry
☐ Heart Saver
☐ Instructor CPR
☐ Basic Rescuer
☐ First Aid Instructor
☐ United Way Referral Agent Program
☐ Industrial Audiometric Technicians Course
☐ Chemical Intervention and Dependency Course
☐ First Aid Course
☐ U.O.M. Certificate Course in Occupational Health and Safety
(Specify courses completed) ______________________________
Other, please specify ______________________________
____

7. Are you currently working as an Occupational Health Nurse?

☐ YES ☐ NO

If NO, do you work in the field of:

☐ Primary Care
☐ Teaching/Research
☐ Other, please specify ______________________________
☐ Public Health

8. Do you work:

☐ Full Time   Number of hours per week ____________
☐ Part Time   Number of hours per week ____________
☐ Casual Basis

9. Please indicate your present salary level per year:

☐ Below $15,000   ☐ $15,000-$19,999
☐ $20,000-$24,999   ☐ $25,000-$29,999
☐ $30,000-$34,999   ☐ $35,000-$40,000
☐ Above $40,000

10. How many years experience have you in occupational health nursing?

☐ 1-5   ☐ 6-10   ☐ 11-15   ☐ 16-20   ☐ 20-25   ☐ more than 25

11. For what type of organization do you work?

☐ Manufacturing   ☐ Service Industry (Inc. personal)
☐ Construction   ☐ Mines and Quarries
☐ Government (Incl. Defence)   ☐ Hospital/Medical Centre/Clinic
☐ Agriculture   ☐ Education
☐ Wholesale/Retail Trade
☐ Other, please specify ______________________________

12. Is your workplace situated in:

☐ Winnipeg   ☐ Brandon   ☐ Thompson
☐ Other, please specify ______________________________

13. To whom do you report in your organization?

☐ Plant Manager   ☐ Personnel Manager/Director
☐ Safety Officer/Manager   ☐ Occupational Physician
☐ OH Nurse
☐ Other, please specify ______________________________

14. Please indicate which of the following employment benefits apply to your job:

Professional dues paid by employer   ☐ YES   ☐ NO
Paid leave for continuing education   ☐ YES   ☐ NO

If YES, please specify approximate number of days per year ________

15. Approximately how many workers are there in your workplace for whom you are responsible for providing occupational health services?

☐ Under 50 ☐ 50-100 ☐ 101-200 ☐ 201-300 ☐ 301-400
☐ 401-500 ☐ 501-600 ☐ 601-700 ☐ 701-800 ☐ 801-1,000
☐ 1,000-1,500 ☐ 1,501-2,000 ☐ 2,001-3,000 ☐ More than 3,000

16. If there is a Joint Safety and Health committee in your workplace, do you have any contact with it.

☐ YES ☐ NO ☐ NOT applicable

If YES, are you or do you:

☐ A member of the committee
☐ Not a member, but attend meetings on request
☐ Attend meetings regularly in an advisory capacity

17. How many OH nurses are employed by your organization in Manitoba (including yourself)? ______________________________

18. Does your organization employ an occupational health physician?

☐ YES ☐ Part-time ☐ Full-time ☐ Retainer Basis
☐ NO

19. If your company does not employ or contract for an occupational physician, to whom do you refer workers who may have a job related health conditions? (Check as many as applicable)

☐ Community/Family Physician
☐ Community Clinic
☐ MFL Occupational Health Clinic
☐ Other, please specify ______________________________
☐ Local Hospital
☐ Specialist

20. Which of the following services or functions do you provide on a regular basis? (Check as many as applicable)

☐ Audiometric Testing
☐ Hypertension Screening
☐ Taking Blood/Urine Samples
☐ Individual Employee Counselling
☐ First Aid/Emergency Treatment
☐ Workplace Hazard Assessment
☐ Keeping Employee Health Records
☐ Handling WCB Claims
☐ Vision Screening
☐ Other, please specify ______________________________
☐ Pre-placement Physical Exams
☐ Health History Taking
☐ Occupational Health Training
☐ Absenteeism Control
☐ Air Sampling
☐ Life Style Health Promotion
☐ Programs
☐ Keeping Employee Exposure
☐ Records

21. Which of the following work related disease/illness problems have you come across in your practice? (Check as many as applicable)

☐ Respiratory
☐ Skin
☐ Muscular/Skeletal
☐ Gastrointestinal
☐ Hematopietic
☐ Other, please specify ____________________
☐ Reproductive
☐ Cardiovascular
☐ Auditory
☐ Neurologial

22. Of those you checked in question 21 above, which three are the most common in your experience?

1st most common ____________________
2nd most common ____________________
3rd most common ____________________

23. In your experience, what are the most common health hazards to which workers are exposed? (Check one or two of the following)

☐ Toxic Chemicals
☐ Mechanical
☐ Biological
☐ Physical Hazards (e.g. noise, radiation)
☐ Psychological

24. Approximately how many worker patients do you see per year?

a) On an individual basis:

☐ 1-10 ☐ 11-20 ☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ 51-60 ☐ 61-70
☐ 71-80 ☐ 81-90 ☐ 91-100 ☐ 101-200 ☐ 201-300 ☐ 301-400 ☐ 401-500
☐ 500-1,000 ☐ More than 1,000

b) On a group basis (e.g. seminars):

☐ 1-100 ☐ 101-200 ☐ 201-300 ☐ 301-400 ☐ 401-500 ☐ 501-600
☐ 601-700 ☐ 701-800 ☐ 801-900 ☐ 901-1,000 ☐ More than 1,000

25. Would you like access to more information/training about:

☐ Etiology of Occupational Related Disease
☐ Symptoms of Occupational Disease
☐ Legislation Related to Workplace Safety and Health
☐ Principles of Industrial Hygiene
☐ Principles or Ergonomics
☐ Biological Monitoring Techniques
☐ Assessment Health Hazards in the Workplace
☐ Other, please specify ____________________

26. Who do you think should provide such information/training?

☐ Your Professional Association
☐ The Government
☐ Colleges, Universities
☐ Other, please specify ______________________________
All of the Above

27. Would you be prepared to pay for such training yourself?

☐ YES ☐ NO

28. In providing OH services, do you currently have access to expert advice from:

☐ Occupational Physician
☐ Safety Engineer
☐ Toxicologist
☐ Psychologist
☐ Other, please specify ______________________________
☐ Industrial Hygienist
☐ Ergonomist
☐ Epiemiologist
☐ OH Nurse Consultant

29. Of those listed above to whom you do not have access, which do you think you should have access to:

____

30. Do you think there is a need for a system to track occupationally related disease/illness at Provincial or Federal Government level?

☐ YES ☐ NO

31. Are current procedures for the reporting of occupational disease and illness to the Workers Compensation Board clear?

☐ YES ☐ NO

32. Ideally, how do you think OH services should be provided:
(Please indicate first and second choise from list)

☐ Primary Care Clinics/Hospitals
☐ Full-time or Part-time Company Provided Services
☐ Community Based OH Clinics
☐ University Affiliated OH Clinics
☐ Private OH Clinics
☐ Regional Public Health Departments
☐ Individual Community Physicians
☐ Other, please specify ______________________________

FIRST CHOICE ______________________________
SECOND CHOICE ______________________________

33. In your opinion, how should OH services be funded?

☐ Through Manitoba Health Services Commission
☐ Employers
☐ Workers
☐ Other, please specify ____________________

34. Please indicate your view of the order of importance of these objectives for an OH service. (Rank from 1 to 4, with 1 being the most important, 4 the least important)

____ Health Hazard Assessment
____ Health Monitoring
____ Diagnosis/Treatment
____ Education/Awareness

35. In your delivery of OH nursing services, do you encounter any problems not already mentioned in this questionnaire?

☐ YES ☐ NO

If YES, please specify ____________________

____

____

THANK YOU FOR YOUR CO-OPERATION IN COMPLETING THIS QUESTIONNAIRE

APPENDIX I

NURSES' SURVEY RESULTS HIGHLIGHTS

SURVEY OBJECTIVE

To obtain information about occupational health nursing as a resource in the Province and about limitations and problems perceived by occupational health nurses.

SURVEY METHOD AND RESPONSE RATE

This survey was conducted in co-operation with the Manitoba Occupational Health Nurses' Interest Group (MARN). Thus, the questionnaire contained questions of direct interest to the Interest Group as well as those designed for the Occupational Health Services Study. Questionnaires were sent out to all the nurses listed on the Interest Group's membership list (135). Prepaid return envelopes were provided with the questionnaire. Seventy-one responses were received (approximately a 52% response rate). Since a number of the nurses on the membership list were either retired or no longer working at the address provided, this response rate was satisfactory.

PROFILE OF RESPONDENTS

Of the 71 respondents, 69 are currently working in the field of occupational health nursing, with 47 working full time and 22 working part time. Only six respondents have obtained the Canadian Occupational Health Nursing Certification, with a further 25 planning to obtain this within the next 2-3 years. However, 43 have more than 5 years experience as an occupational health nurse. Thirty-four (or almost 50%) of the respondents have taken the Red River Community College Occupational Health Nursing Program, while 41 are trained as industrial audiometric technicians.

CHARACTERISTICS OF RESPONDENTS' WORKPLACES

The largest number of respondents (20) work for government with the next largest group (18) working in the manufacturing sector. Eighty-seven percent of the respondents provide services to more than 200 workers indicating that, in general, occupational nurses are employed in larger organizations as might be expected. Almost 90% are employed in Winnipeg.

REPORTING RELATIONSHIPS

The following shows the types of people in an organization to whom the nurses surveyed report:

Plant Manager	6
Safety Officer	7
Occupational Health Nurse	13
Personnel Manager	27
Physician	14
Other	16

As can be seen, the largest group report to the Personnel Manager. That relatively few report to a physician reflects the fact that there are few physicians employed on a full-time basis by organizations in the Province. "Other" included Director of Nursing, Production Manager, Manager of the Employee Assistance Program, but in no cases did they report to the joint safety and health committee.

OCCUPATIONAL HEALTH PROFESSIONALS EMPLOYED

Forty-eight of the nurses who responded said their workplaces employed a physician; however, only 11 respondents said that they were employed on a full-time basis. Of the remainder, 20 said they were employed part-time and 17 on a casual basis.

RELATIONSHIP TO JOINT COMMITTEES

Fifty-seven of the respondents have joint safety and health committees in their workplaces; 29 were not members but met with the committee regularly on an advisory basis; and 11 attended committee meetings on the specific request of the committee. Thirteen were actually members of the committee.

REFERRING PATIENTS

Nurses were asked to indicate where they referred workers with health problems where no physician was employed full-time by the company. Their responses were as follows:

Family doctor	20*
Community clinic	9
MFL clinic	2
Hospital	19
Specialist	9
Other	7

"Other" included providing workers with information about choices in the community as well as those whose company employed an occupational health physician. The fact that the largest number refer workers to either a family doctor or a hospital probably indicates that these are the most usual and available options.

FUNCTIONS PERFORMED BY OCCUPATIONAL HEALTH NURSES

Nurses were asked to indicate the range of functions they undertook as part of their occupational nursing programs in their workplaces. Responses are indicated in the following table:

Keep health records	64
Counselling	61
First aid	58
Hypertension	56
Health history taking	53
Lifestyle/health promotion programs	52
Pre-placement physicals	46
Audiometric testing	45
Hazard assessment	44
Handle WCB claims	42
Vision screening	39
Blood/urine samples	37
Absenteeism control	27
Occupational health training	25
Keep exposure records	24
Other	19
Air sampling	8

It is interesting to note that although a significant number indicated that they did "hazard assessment", a large number (46) indicated a need for training in the area of health hazard assessment in a later question.

A large number (52) of the respondents indicated that they undertook lifestyle/health promotion programs and a smaller, but significant number (27), that they did absenteeism control. This latter function is specifically mentioned as being not appropriate for an occupational health service in the 1985 ILO Convention.

MOST COMMON WORK RELATED HEALTH PROBLEMS

Nurses were asked to indicate the types of work-related health problems they had come across in their practice from a list provided. Analysis indicated that the three most common types were:

Most common	Muscular-skeletal
Second most common	Skin
Third most common	Skin/respiratory/auditory

This result certainly reflects the frequency of such types of health problems as indicated by Workers Compensation Board claims experience.

MOST COMMON HEALTH HAZARDS

When asked to indicate from a list provided the most common health hazards in their workplaces, the result was:

Physical	46*
Mechanical hazards	30
Psychological	30
Toxic chemicals	19
Biological	6

TRAINING/INFORMATION NEEDS

Nurses were asked to indicate the areas in which they felt they needed more information or training. The result was:

Health Hazard Assessment	46*
Etiology of Occupationally Related Disease	39
Symptoms of Occupational Disease	39
Ergonomics	28
Legislation Relating to Occupational Health	25
Biological Monitoring	25
Principles of Industrial Hygiene	18
Other	9

Areas specified in the "other" category included: dealing with stress; ethics; interpretation of lab results; adult education techniques; noise surveys; and incidence of work-related health problems in Manitoba.

EXPERT ACCESS NEEDED

One question asked nurses to indicate types of experts they need access to but do not have currently. Results were:

Occupational Physician	48*
Industrial Hygienist	31
Safety Engineer	29
Occupational Health Nurse	20
Epidemiologist	17
Psychologist	16
Toxicologist	14
Ergonomist	9
Other	9

OCCUPATIONAL HEALTH SERVICE PREFERRED DELIVERY MODEL

Nurses were asked for their first and second choice on the most appropriate perceived delivery model for occupational health services. The most popular first choice was company (or in-plant) with the second choice being community clinics.

FUNDING

The majority of respondents (63) felt that occupational health services should be funded either by the Manitoba Health Services Commission or by employers.

MAJOR HEALTH SERVICE OBJECTIVES

Nurses were asked to rank four specified objectives for an occupational health service. Thirty-six (or approximately 50%) felt that the most important objective was education/awareness, with health monitoring coming second and hazard assessment third.

COMMENTS

The final question was open ended and asked nurses to specify if they felt there were other problems connected with occupational health nursing services not otherwise covered in the questionnaire. Twenty-five of the respondents did specify such other problems. Most frequently mentioned issues were:

> Role of the Nurse in the Organization: A number of nurses felt that they had difficulties trying to keep a middle course between management and labour conflicts. For example, one commented that: "Overcoming union biases, i.e. (they) feel you are on management's side and do not understand their problems" and "involvement in management/labour conflicts, trying to remain independent . . .".

Other comments concern a related issue, that of the reporting relationship of the occupational health nurse. For example, a number feel that the person to whom they report (e.g. line management) are not sufficiently aware of occupational health concerns and practice.

Others feel that there is role confusion between their role and that of the safety officer or personnel manager.

Professional Isolation: A number of comments relate to the occupational health nurse's feeling of professional isolation from other occupational health nurses and from sources of expertise to turn to. For example: "I have so many questions and no one to discuss them with."

Medical Confidentiality: A number of comments indicated difficulty about maintaining worker health records on a confidential basis and not available to management or personnel.

The general flavour of these comments is that many occupational health nurses feel a need for more contact with other occupational health professionals and that they need clarification and guidelines about their roles, program delivery and responsibilities.

APPENDIX II

PHYSICIAN'S SURVEY
QUESTIONNAIRE AND SURVEY RESULTS

OCCUPATIONAL HEALTH SERVICES STUDY

OH PHYSICIANS SURVEY, 1986

A study of Occupational Health Services in Manitoba is being conducted by the Department of Environment and Workplace Safety and Health. The purpose of this study is to assess the needs of OH services in the Province and to develop guidelines for effective and appropriate delivery of services.

This survey of Physicians, who are members of the MMA's Section on Preventive and Occupational Medicine, is being conducted in order to collect information about current availability of services in the Province. It is also designed to elicit the views of Physicians about the delivery of OH services.

Your assistance in completing and returning this questionnaire will therefore be greatly appreciated. A summary of the results of the survey will be made available to your Section.

Individual responses will be treated as confidential.

PLEASE READ THESE INSTRUCTIONS BEFORE COMPLETING THE QUESTIONNAIRE

The questionnaire is in three parts. If you are not currently involved in the delivery of occupational health services to any extent, please complete only Part A and Part B. If you are currently involved in the provision of occupational health services, please complete Parts A and C only.

PLEASE RETURN THE COMPLETED QUESTIONNAIRE USING THE STAMPED, RETURN ENVELOPE PROVIDED BEFORE **MARCH 15, 1986.**

PART A

1A What year did you graduate?

☐ 1940-50 ☐ 1951-60 ☐ 1961-70 ☐ 1971-80 ☐ after 1980

2A Please list any post-graduate qualifications you have:

____

____

3A Do you work in the field of (check more than one box, if appropriate)

☐ primary care
☐ industrial medicine
☐ other, please specify ________________

☐ public health
☐ medical research/teaching

4A In what capacity do you currently practice medicine?
(Check more than one box, if appropriate)

☐ Family physician
☐ Specialist practice (other than OH)
☐ Medical Officer of Health (under Public Health Act)
☐ Government employee (other than MOH)
☐ University teacher/researcher
☐ Workers Compensation Board Doctor
☐ Physician providing occupational health services for workplaces
    ☐ Full-time ☐ Part-time
☐ Other, please specify ________________________________

PART B

PLEASE COMPLETE THIS PART ONLY IF YOU ARE NOT CURRENTLY INVOLVED IN PROVIDING OCCUPATIONAL HEALTH SERVICES

1B What is the nature of your interest in occupational health?

☐ My patients' health problems may be related to their occupation.
☐ I teach occupational health or related courses.
☐ I am sometimes asked to assess fitness for work for WCB purposes.
☐ Other, please specify ________________________________

____

2B Do you feel you need more: (Check more than one, if applicable)

☐ Information about the etiology of occupational disease.
☐ Guidance re symptoms of occupationally related disease.
☐ Information about patients' occupational histories.
☐ Information about patients' working environment.
☐ Training seminars about occupational health.
☐ Other, please specify ______________________________
☐ No further information or guidance.

3B If you are involved with primary care, to what extent do you think your patients' health problems may be occupationally related?

☐ To no extent ☐ To a very little extent
☐ To some extent ☐ To a large extent

4B Do you think that work history should be part of the Manitoba Health Services Commission data base? **YES** ☐ **NO** ☐

5B Are current procedures and criteria for the reporting of occupational disease and illness (to Provincial Government) clear? **YES** ☐ **NO** ☐

PART C

1C Are you certified in occupational medicine? **YES** ☐ **NO** ☐

If YES, please specify type of certification and country of origin

____

2C Which of the following occupational health services do you provide? (Check as many as applicable)

☐ Pre-placement medical examinations
☐ Regular examinations for certain workers
☐ Biological monitoring
☐ Keeping of worker health records
☐ Occupational health education/training
☐ Employee counselling
☐ Employee fitness programs
☐ Rehabilitation
☐ First aid/emergency treatment
☐ Workplace Health hazard surveillance
☐ Audiometric testing
☐ Determination of fitness to work
☐ Other, please specify ______________________________

3C In what capacity do you provide occupational health services?

☐ Through a community health clinic
☐ As a full-time company physician
☐ On a part-time basis for how many workplaces? _____
☐ Other, please specify ______________________________

4C Who is your major contact in respect of the occupational health services you provide?

☐ Employer/owner of workplace
☐ Plant manager
☐ Safety/personnel director/officer
☐ Other, please specify ______________________________
☐ Union
☐ Worker only

5C Do you have any contact with Joint Safety and Health Committees in workplaces for which you provide OH services? YES☐ NO☐

If NO, do you think it would be useful for you to do so?
YES☐ NO☐

6C Approximately how many workers are covered by the OH services you provide?

☐ 1-20 ☐ 21-40 ☐ 41-60 ☐ 61-80 ☐ 80-100 ☐ 101-200 ☐ 201-300
☐ more than 300

7C Approximately how many worker patients do you examine per year for occupational health reasons?

☐ 1-10 ☐ 11-20 ☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ more than 50

8C Which of the following occupationally related health problems have you come across in your practice? (Check as many as applicable)

☐ Respiratory
☐ Skin
☐ Muscular/skeletal
☐ Gastrointestinal
☐ Hematopietic
☐ Reproductive
☐ Cardiovascular
☐ Auditory
☐ Neurological
☐ Other, please specify __________

9C Of those you have checked in 8C above, which three are the most common in your experience?

1st most common ____________________
2nd most common ____________________
3rd most common ____________________

10C In your experience, what are the main health hazards in the workplaces for which you provide OH services?

☐ Toxic Chemicals
☐ Mechanical
☐ Psychological
☐ Physical hazards (e.g. noise, radiation)
☐ Biological
☐ Ergonomic

11C Would you like access to more information/training about:

☐ etiology of occupationally related disease
☐ symptoms of occupational disease
☐ legislation relating to occupational health
☐ principles of industrial hygiene
☐ principles of ergonomics
☐ biological monitoring
☐ assessing health hazards in the workplace
☐ Other, please specify ____________________________
☐ No further information or guidance

12C Who do you think should provide and/or fund such training/information?

☐ Your professional association
☐ The government
☐ Colleges
☐ University
☐ Other, please specify ____________________________

13C In providing OH services, would it be useful for you to have access to expert advice from: (Check as many boxes as applicable)

☐ industrial hygienist
☐ ergonomist
☐ toxicologist
☐ other, please specify ____________________________
☐ safety engineer
☐ psychologist
☐ epidemiologist

14C In your delivery of OH services, do you encounter any problems not already mentioned in this questionnaire? **YES**☐ **NO**☐

If **YES**, please specify ____________________________

____

____

15C Do you think that work history should be part of the Manitoba Health Services Commission data base? **YES** ☐ **NO**☐

16C Are the procedures and criteria for the reporting of occupational disease and illness (to Provincial Government) clear?

YES ☐ NO ☐

If NO, what would you like to see done to improve this?

____

____

17C Ideally, how do you think OH services should be delivered?

☐ Primary care clinics/hospitals
☐ Full-time or part-time contracts with employers
☐ Community based OH clinics
☐ University-affiliated
☐ Private OH clinics
☐ Regional Public Health Departments
☐ Individual community physicians
☐ Other, please specify ____________________________________

18C In your opinion, how should OH services be funded?

☐ Through Manitoba Health Insurance Commission
☐ Employers
☐ Workers
☐ Other, please specify ____________________________________

19C In your opinion, what should be the major objectives of an occupational health service?

☐ Prevention
☐ Health Surveillance
☐ Diagnosis/treatment
☐ Education/awareness
☐ Other, please specify ____________________________________

20C Approximately how many hours per week do you spend on occupational health related work? ________

THANK YOU FOR YOUR CO-OPERATION IN COMPLETING THIS QUESTIONNAIRE

APPENDIX II

PHYSICIANS' SURVEY
RESULTS HIGHLIGHTS

SURVEY OBJECTIVES

To obtain information from physicians currently working in the field of occupational medicine about the range of services provided and how provided and their perceptions about occupational health and occupational health services.

SURVEY METHOD AND RESPONSE RATE

In co-operation with the Manitoba Medical Association's Section on Preventive and Occupational Medicine, a questionnaire was posted (with reply paid return envelopes) to the Section's list of members (approximately 40). Since, however, it was recognized that only about half of the membership were actively involved to any extent in the delivery of occupational health services, the questionnaire was designed in three parts. All were asked to complete Part A; Part B was designed for completion by those physicians not currently involved in the delivery of occupational health services in order to gain some idea of the nature of their interst in occupational health; and Part C was designed for those respondents who are currently working in the field of occupational medicine.

Twenty-five completed questionnaires were returned. Of these only about half indicated any involvement in occupational health. Clearly, however, this does not reflect the full extent of physicians providing some occupational health services in the Province--usually on a part-time or retainer basis. The nurses survey, for example, indicated that there were some 37 physicians employed for their workplaces on a part-time or casual basis. In addition to these, it must be remembered that most community or family physicians do, from time to time, treat patients whose health concern may be work-related to some extent.

PART A

PROFILE OF RESPONDENTS

Twenty-five (all respondents) completed Part A. Of these, 12 indicated that they worked in the field of industrial medicine. The way in which all respondents currently practice medicine was distributed as follows:

Physician providing occupational health services	12 (4 full-time)
Family physician	9
Specialist practice	5
Government employee	5
Medical officer of health	3
University teaching/research	3
WCB doctor	0
Other	3

PART B

(Completed by respondents not currently involved in occupational health.)

Seventeen physicians answered this part, indicating perhaps that there may have been some confusion with the design of the questionnaire since in the previous part, 12 had indicated involvement with the provision of occupational health services, which would suggest that only 13 were not.

NATURE OF INTEREST

Since these respondents were also members of the Manitoba Medical Association Section, they were asked to indicate the nature of their interest in occupational health. Six indicated that they were interested since their patients' health may be related to their occupation; seven that they were involved in assessing fitness to work for Workers Compensation Board purposes; and two that they taught occupational health. Nine indicated "other" reasons for their interest and these included:

- **Information/Training Needs**: The four areas in which the largest number indicated need for information or training were:
  - information about patients' working environment;
  - etiology of occupational disease;
  - symptoms of occupational disease; and
  - seminars about occupational health.

- **Work History**: Nine indicated that they thought work history should be part of the Manitoba Health Services Commission data base.

- **Occupational Disease Reporting Procedures**: Eleven did not agree that the current procedures for the reporting of occupational diseases and illnesses were clear to them.

PART C

(Those currently involved with occupational health service delivery.)

Of those who responded to this part (19), five indicated that they worked full-time as a company physician and ten indicated they worked on a part time basis. Of these ten, five provided services to three or four different workplaces.

CERTIFICATION

Six indicated that they were certified in occupational medicine (three Canadian and two United Kingdom).

OCCUPATIONAL HEALTH SERVICES PROVIDED

Pre-placement, regular medical examinations and assessing fitness to work were the most common services provided. Distribution of these and other services provided was as follows:

Pre-placement exams	16
Regular medical exams	16
Keeping health records	16
Assessing fitness to work	14
Employee counselling	13
Workplace health hazard surveillance	13
Biological monitoring	12
Occupational health training	11
First aid	9
Audiometric testing	8
Rehabilitation	6
Employee fitness programs	5

MAJOR CONTACT IN COMPANY SERVED

Respondents were asked to indicate, from a list provided, their major contact in respect of the occupational health services they provided. Five indicated the employer as the contact; four, the plant manager; three, the personnel or safety officer; one, the union; and one, the worker. Under "other", 15 indicated that they also had some contact with the joint safety and health committee in the workplaces served.

WORKERS COVERED

Fourteen of the respondents indicated that there were 300 or more workers covered by the occupational health services they provided. Fourteen also indicated that they saw 50 or more worker patients per year.

MOST COMMON HEALTH PROBLEMS

Respondents were asked to indicate the three most common types of occupationally related health problems in their experience. Those indicated most often were:

Most common	Muscular-skeletal
Second most common	Muscular-skeletal/respiratory
Third most common	Respiratory

(The nurses also identified muscular-skeletal and respiratory concerns as being the first and third most common.)

MAIN HEALTH HAZARDS

Respondents were asked to indicate from a list provided the main health hazards in the workplaces for which they provided services. Those most frequently mentioned were:

Physical hazards	12
Toxic chemicals	11

INFORMATION/TRAINING NEEDS

Most frequently mentioned areas in which respondents would like more training or information were:

Etiology of occupationally related disease	10
Assessing health hazards in the workplace	9
Symptoms of occupational disease	6
Legislation regarding occupational health	6

Nine respondents indicated that the government should provide and/or fund such training.

ACCESS TO EXPERT ADVICE

Respondents were asked to indicate, from a list provided, the type of experts in occupational health they would like access to. Most frequently indicated were: industrial hygienists (13); toxicologists (13); ergonomists (8); and epidemiologists (8).

WORK HISTORY AND MHSC DATA BASE

Eleven agreed that work histories should be part of the Manitoba Health Services Commission data base.

REPORTING PROCEDURES

Eleven also felt that the current procedures for the reporting of occupational disease and illness were not clear to them.

DELIVERY MODELS

Respondents were asked to indicate from a list provided how they thought occupational health services should be delivered. The most frequently indicated response was through full-time or part-time contracts with employers.

FUNDING OF OCCUPATIONAL HEALTH SERVICES

Twelve believed that occupational health services should be funded by employers and seven believed that the funding should be through the Manitoba Health Services Commission.

APPENDIX III

MANITOBA FEDERATION OF LABOUR SURVEY QUESTIONNAIRE AND SURVEY RESULTS

APPENDIX III

QUESTIONNAIRE SURVEY OF PARTICIPANTS AT MFL OCCUPATIONAL HEALTH AND SAFETY SEMINAR - 1986

The Manitoba Department of Environment and Workplace Safety and Health is currently undertaking a study of occupational health services in the Province. The purpose of the study is to: assess the needs for occupational health services; estimate the current availability of services and expertise; and to develop guidelines for effective and appropriate delivery of services.

"Occupational Health Services" generally refer primarily to the medical aspects of occupational health programs and to those services provided by occupational health nurses and physicians. Sometimes, however, as is the case in Quebec, industrial hygiene services or some aspects of workplace health hazard assessment are also included.

The purpose of this survey is to obtain information from workers about the current availability of occupational health services in their workplaces, their perceptions of need for such services, as well as views about appropriate and effective delivery of services.

Your participation in this survey will be greatly appreciated.

Dilys Robertson

Study Director,
Occupational Health Services Study,
Manitoba Environment and Workplace
Safety and Health.
April, 1986.

1. Please indicate the type of workplace for which you work.
(Check only one) MANUFACTURING __ AGRICULTURE __ MINING __
SERVICE INDUSTRY __ GOVERNMENT __ CONSTRUCTION __ HEALTH CARE __
OTHER (Please Specify)______________________________

2. Of which union are you a member? (Please specify the name of your union)____

3. Are you a full time union official employed by a union?
YES __ NO __

4. Is your workplace situated in:

WINNIPEG __ BRANDON __ THOMPSON __ OTHER (Please Specify)__________

5. Approximately how many people are employed in your workplace?
(Check only one) 1-10 __ 11-25 __ 26-50 __ 51-100 __
101-300 __ 301-500 __ 501-1000 __ MORE THAN 1000 __

6. Does you workplace have a joint safety and health committee?
YES __ NO __ DON'T KNOW __

7. Are you: a member of the joint safety and health committee?

YES __ NO __ NOT APPLICABLE __

a co-chairperson?

YES __ NO __ NOT APPLICABLE __

8. Does your workplace employ or arrange for the services of any of the following? (Check as many as apply).

AN OCCUPATIONAL PHYSICIAN	YES __	NO __	FULL TIME __	PART TIME __
AN OCCUPATIONAL NURSE	YES __	NO __	FULL TIME __	PART TIME __
AN INDUSTRIAL HYGIENIST	YES __	NO __	FULL TIME __	PART TIME __
AN AUDIOLOGIST(HEARING)	YES __	NO __	FULL TIME __	PART TIME __
AN AUDIOMETRIC TECHNICIAN	YES __	NO __	FULL TIME __	PART TIME __

9. Which of the following health services (if any) are available in your workplace? (Check as many as applicable).

PRE EMPLOYMENT MEDICAL EXAMS YES __ NO __
REGULAR MEDICAL EXAMS (e.g. YEARLY) YES __ NO __
MEDICAL TESTS (e.g. blood, urine) YES __ NO __
HEALTH HAZARD EDUCATION/TRAINING YES __ NO __
EMPLOYEE ASSISTANCE PROGRAMS YES __ NO __
FITNESS PROGRAMS (e.g. quit smoking) YES __ NO __
INDUSTRIAL HYGIENE SURVEYS YES __ NO __
AUDIOMETRIC TESTING (hearing) YES __ NO __
OTHER, PLEASE SPECIFY ______________________________

10. In your view, which are the three most important of the services listed in question 9 above?

1st MOST IMPORTANT ______________________
2nd MOST IMPORTANT ______________________
3rd MOST IMPORTANT ______________________

11. Which of the following kinds of hazards do you think are of most concern in your workplace? (please write three in order or priority with 1 being the highest priority).

SAFETY HAZARDS 1 ______________________
TOXIC CHEMICALS 2 ______________________
PHYSICAL HAZARDS (e.g. noise) 3 ______________________
PSYCHOLOGICAL (e.g. stress)
BIOLOGICAL (e.g. bacteria)

12 How do you think occupational health services should be provided for your workplace? (Please check only one).

IN-PLANT __ THROUGH LOCAL HOSPITAL __ UNION CLINIC __
COMMUNITY HEALTH CLINIC __ PRIVATE CLINIC __ UNIVERSITY __

13a Do you think that medical tests for workers exposed to certain toxic chemicals or physical agents should be: (Please check no more than two of the following).

__ MANDATORY IN ALL CASES
__ MANDATORY WHERE TESTS ARE NECESSARY TO SUPPLEMENT WORKPLACE MONITORING
__ MANDATORY WHERE OTHER PEOPLE'S HEALTH OR SAFETY MAY BE AFFECTED
__ NEVER MANDATORY

13b Do you have any other comments regarding medical tests for workers? YES __ NO __

If YES, please specify____________________________________
____
____

14. To whom do you think an occupational physician should report?
____

15 To whom do you think an occupational health nurse should report?
____

16. Do you think that joint safety and health committees could play a more active role in occupational health programs than most currently do? YES __ NO __

If YES, please specify how they might be helped to do so in your view____
____
____

17. What are the most important training needs for workers in occupational health in your workplace? (Please write in the three most important in your view, with 1 being the most important).

PRINCIPLES OF INDUSTRIAL HYGIENE
ENVIRONMENTAL MONITORING TECHNIQUES (Air Sampling)
STATISTICAL TECHNIQUES
INFORMATION ABOUT HEALTH HAZARDS
OCCUPATIONAL HEALTH AND SAFETY LEGISLATION
WORKPLACE INSPECTION TECHNIQUES
MEDICAL MONITORING (Methods, meaning of results)
OTHER, PLEASE SPECIFY__________________________
NO FURTHER TRAINING REQUIRED

1st MOST IMPORTANT__________________________
2nd MOST IMPORTANT__________________________
3rd MOST IMPORTANT__________________________

18. Do you have any other concerns about occupational health services not already mentioned in this questionnaire?

YES __ NO __

If YES, please specify____
____
____
____
____

THANK YOU FOR YOUR CO-OPERATION

MFL SURVEY
RESULTS HIGHLIGHTS

SURVEY OBJECTIVE

To obtain information from workers who are members of MFL affiliated unions about the current availability of occupational health services in their workplaces and their perceptions about needs and priorities.

SURVEY METHOD AND RESPONSE RATE

Questionnaires were distributed to all participants attending the MFL Occupational Health and Safety Conference in April, 1986. Of the approximately 200 questionnaires distributed, 131 completed responses were collected. (A response rate of 65.5%.)

PROFILE OF RESPONDENTS

Twenty-three separate unions were represented among the 131 respondents. Seventeen of the respondents were union officials and 88 (67%) were members of joint safety and health committees in their workplaces. Thirty (22%) of these were worker co-chairpersons of such committees.

CHARACTERISTICS OF RESPONDENTS' WORKPLACES

Industrial sectors represented included manufacturing, agriculture, mining, service industries, government, health care, transport, education and cultural. The greatest representation was from government (28%) followed by manufacturing (22%). Sixty-one percent of the respondents came from workplaces with more than 100 employees. Workplace locations were dominated by Winnipeg (63%). Other locations represented included Brandon, Thompson, Pointe du Bois, Selkirk, Steinbach, Flin Flon, The Pas, Giroux, Winkler, Leaf Rapids, SnowLake, Dauphin, Virden and Lynn Lake.

In general, respondents tended to come from the larger workplaces and could be expected to have more than an average interest in workplace safety and health.

ACCESS TO OCCUPATIONAL HEALTH PROFESSIONALS

Participants were asked to indicate whether or not specified occupational health professionals were employed to any extent for their workplaces. Answers were as follows:

	YES	FULL-TIME	PART-TIME
Occupational physician	35*	10	18
Occupational nurse	41	27	6
Industrial hygienist	14	5	1
Audiologist	45	9	21
Audiometric technician	24	5	10

Note: The above needs to be interpreted with some caution.

It is unlikely for example, that there are nine full time audiologists employed in the Province. It is possible, therefore, that this has been confused with audiometric technician. The lower number attributed to audiometric technician would supoport this. The number for industrial hygienist may also be an over-estimate since some respondents may be counting access to an industrial hygienist from the Division or perhaps from a union office.

AVAILABILITY OF OCCUPATIONAL HEALTH SERVICES

Participants were asked to indicate the range of occupational health services available in their own workplaces from a list provided. Responses were as follows:

	PERCENT SAYING YES
Employee assistance programs	52
Pre-employment medicals	45
Audiometric testing	41
Health hazard education/training	35
Fitness programs	26
Regular medical examinations	18
Medical tests (blood, urine)	17
Industrial hygiene surveys	17

It is interesting to note here that although over 50% have access to employee assistance programs in their workplaces, only 17% have industrial hygiene surveys.

Participants were also asked to indicate which, in their view, were the three most important of the services listed above. Interestingly, health hazard education received the highest count for first and second most important. Regular medical programs and employee assistance programs came next.

HEALTH HAZARDS OF MOST CONCERN

Participants were asked to indicate which three types of health hazards were of most concern in their workplaces in order of priority with one being the highest priority. Responses were as follows:

Most important	Safety/psychological
Second most important	Physical/safety
Third most important	Physical/psychological

These results reflect Workers Compensation Board claims experience and may also reflect the fact that: (a) physical hazards include noise and there has recently been a new noise regulation; (b) chemical hazards are not as obvious as safety hazards; and (c) joint safety and health committees have apparently so far paid little attention to health hazards as compared with safety hazards. The nurses' survey had a similar result in this area.

OCCUPATIONAL HEALTH SERVICE PREFERRED DELIVERY MODEL

One question asked how respondents considered occupational health services should be provided for their workplaces (a list of options were mprovided). Responses were as follows:

	PERCENT SAYING YES
In-plant	43%
Union Clinic	23
Hospital	12
Community Health Clinic	12
Private Clinic	5
University	1.5

ROLE OF JOINT SAFETY AND HEALTH COMMITTEES

Eighty percent of the respondents felt that joint committees could play a more active role in occupational health and nearly 70% of these specified how they thought this might be achieved. It is clear from the number of comments and from the consistency of the comments that this is perceived to be a significant concern and that, in general, respondents believe that joint committees can and should play a greater role in occupational health in the workplace.

Most suggestions as to how committees might be helped to play a greater role fell in the following categories:

Training/Education/Awareness: The largerst number of comments related to the need for more training and education in occupational health for committee members and others. One suggested, for example, that committees all contribute to a central newsletter. Occupational health training was suggested for two other groups:

> Management: Many comments were made about the need for management to become more aware of occupational health so that they would have a more positive attitude.
>
> Workers: There was a strongly expressed need for committees to have more involvement/communication with workers on occupational health issues and health concerns. In particular, many commented that committee members should be used to train workers by running seminars in-house and that time should be allowed for this.

More Committee Activity In-Plant: Many also suggested that committees should increase their in-house activities. For example: conducting surveys, spending more time following up reported concerns, holding more meetings, collecting and analysing workplace related information, conducting environmental monitoring, etc.

More Authority for Committees: Some suggested that committees required greater legal authority to implement changes. Others said that co-chairpersons should play a more aggressive role.

MEDICAL TESTS

Participants were asked whether medical tests for occupational health purposes should, or should not be mandatory in general or in certain circumstances. Responses were as follows:

	PERCENT SAYING YES
Mandatory in all cases	69
Mandatory where tests are necessary to supplement environmental monitoring	23
Mandatory where other people's health or safety may be affected	5
Never mandatory	1.5

Note: This result should be interpreted with caution since it is possible that the question may have been interpreted differently from the meaning intended. What was intended was to ask whether or not workers should be required to have medical tests. It may have been interpreted as meaning whether occupational health medical tests should be the subject of legislative requirements.

However, responses to an additional question on medical tests for workers (Do you have any additional comments regarding medical tests for workers?) provided some further information on the perceptions of respondents about this issue.

In total, 35 indicated that they did have such additional concerns and indicated the nature of these. In the main these related to:

- **The need for medical examinations for workers**: A significant number felt that there was a need for medical examinations and tests for workers. These needs related to regular or yearly general health examinations, yearly eye tests for VDT operators, and pre-employment medicals to establish a baseline for future reference.

- **Confidentiality**: A number commented on the need to ensure confidentiality of workers' health records and examination results. One commented that aggregate results of medical tests should be provided to the joint safety and health committees.

- **Worker Access**: Several commented on the need for workers to have complete access to their health records and test results and/or an explanation of the meaning of results.

- **Job Security**: A few commented that there was a need for definite guidelines as to the procedure to be followed if a worker had to be removed from exposure to ensure no loss of pay or job security.

- **Mandatory Medical Tests**: Several said that yearly health examinations should be mandatory. On the other hand, others suggested that such examinations be at the request of the worker.

- **Physicians**: Several comments related to the use of appropriate physicians for medical monitoring. For example, doctors require training in occupational health so that workers can use their own physician.

TRAINING NEEDS

Participants were asked to indicate the three most important occupational health related training/information needs in order of priority (1 being the highest) from a list provided. Responses were as follows:

Most important	Information re health hazards
Second most important	Information re health hazards
Third most important	Workplace inspection techniques

COMMENTS

The final question asked whether there were any other concerns not already mentioned in the questionnaire and if so, to specify the nature of these. Seventeen respondents did mention other concerns. Most frequently mentioned concerns related to:

- **Legislation and Enforcement**: A number commented that there should be more enforcement of legal requirements and that regulations were preferred to "guidelines".

- **Training and Education**: Various comments were made on the need for more training and/or education. In particular, comments related to the need to train management about occupational health, especially pertinent legal requirements. Others commented on the need to train doctors about occupational health. Other comments were about the general need to provide more occupational health related training and information.

- **Stress**: Several comments related to the need to address stress related occupational health concerns.

APPENDIX IV

WORKSAFE! SURVEY QUESTIONNAIRE AND SURVEY RESULTS

OCCUPATIONAL HEALTH SERVICES SURVEY

In this last issue of Worksafe, you learned about the Study of Occupational Health Services which is currently underway. The next step is getting your input. The study team would like to know your views, experience and knowledge of occupational health services. Please complete this questionnaire and return it to us. All responses will be treated confidentially.

DO NOT WRITE

1. Please indicate the type of workplace for which you work. (Check only one)
MANUFACTURING ☐ AGRICULTURE ☐ MINING ☐ SERVICE INDUSTRY ☐ GOVERNMENT ☐
CONSTRUCTION ☐ OTHER (PLEASE SPECIFY) ______________________________)

2. Approximately how many people are employed in your workplace? (Check only one)
1-10 ☐ 11-25 ☐ 26-50 ☐ 51-100 ☐ 101-300 ☐ 301-500 ☐ 501-1000 ☐ more than 1000 ☐

3. Your position in the workplace is:
EMPLOYER/OWNER ☐ MANAGER/SUPERVISOR ☐ OCCUPATIONAL HEALTH PROFESSIONAL ☐
UNION OFFICIAL ☐ EMPLOYEE ☐

4. Does your workplace have a joint safety and health committee? (check only one)
YES ☐ NO ☐ DON'T KNOW ☐

5. Are you a co-chairperson on the joint safety and health committee?
YES ☐ NO ☐

6. Does your workplace employ or arrange for the services of any of the following? (**Check as many as apply**)

AN OCCUPATIONAL HEALTH PHYSICIAN	NO ☐ YES ☐ FULL TIME ☐ PART TIME ☐
AN OCCUPATIONAL HEALTH NURSE	NO ☐ YES ☐ FULL TIME ☐ PART TIME ☐
AN INDUSTRIAL HYGIENIST	NO ☐ YES ☐ FULL TIME ☐ PART TIME ☐
AN AUDIOLOGIST	NO ☐ YES ☐ FULL TIME ☐ PART TIME ☐

7a Which of the following occupational health services (if any) are available to those in your workplace? (**Check as many as apply**)

PRE EMPLOYMENT MEDICAL	YES ☐ NO ☐
REGULAR MEDICAL EXAMINATIONS	YES ☐ NO ☐
BIOLOGICAL TESTING	YES ☐ NO ☐
HEALTH EDUCATION	YES ☐ NO ☐
DRUG/ALCOHOL PROGRAM	YES ☐ NO ☐
FITNESS PROGRAM	YES ☐ NO ☐
INDUSTRIAL HYGIENE SURVEYS	YES ☐ NO ☐
AUDIOMETRIC TESTING	YES ☐ NO ☐
OTHER (PLEASE SPECIFY) ____________	

7b In your view, which are the three most important occupational health services listed in question 7a?

1st MOST IMPORTANT ______________________
2nd MOST IMPORTANT ______________________
3rd MOST IMPORTANT ______________________

7c In your opinion, what are the major barriers preventing occupational health services being available in your workplace?

____

____

☐ Not applicable, services are available.

8. In your opinion, what are the three most important hazard health concerns in your workplace?

1st MOST IMPORTANT ______________________
2nd MOST IMPORTANT ______________________
3rd MOST IMPORTANT ______________________

THANK YOU FOR YOUR HELP IN FILLING OUT THIS QUESTIONNAIRE

APPENDIX IV

WORKSAFE! SURVEY - RESULTS HIGHLIGHTS

PURPOSE OF SURVEY

To provide the opportunity for input into the study of a wide range of people and workplaces in Manitoba.

SURVEY METHOD AND RESPONSE RATE

The occupational health and safety journal, WorkSafe!, produced and distributed by the Workplace Safety and Health Division, was used as a means of distributing questionnaires for this survey. (Return postage was prepaid.) Some 35,000 copies of WorkSafe! are distributed to Manitoba workplaces free of charge. Most of these copies are not specifically addressed but are distributed to all company locations in the Province through a Canada Post drop. Some 5,000 copies are posted separately from a mailing list consisting of all identified co-chairpersons of joint safety and health committees as well as unions, managers, employers, safety and health professionals and others whose names have been included on this mailing list.

The disadvantage of this method of distribution for survey purposes was that the survey could not be targeted to identified groups on an appropriate sample basis. On the other hand, given its wide distribution and the fact that it was one of the few feasible ways of reaching small workplaces, it provided the opportunity for input from a wide range of workers and employers or managers in diverse industrial sectors and from large and small companies.

A total of 570 responses were received, although a number of these arrived too late for inclusion in the survey analysis. Five hundred and five completed questionnaires were included in the analysis. Given the method of distribution, this response rate (approximately 1.5%) can be considered reasonably good.

PROFILE OF RESPONDENTS

Respondents were asked to identify their jobs within broad categories. The distribution of responses in these various categories was as follows:

Manager	214
Employee	147
Owner	71
Occupational Health Professional	37
Union Official	31
Not Applicable	5

This meant that the owner/manager categories represented 56.4% of the total response and the employee/union official categories represented 35% of the total. A significant number (38%) of the total respondents were also either employer or worker joint committee co-chairpersons. This probably results from the method of distribution of WorkSafe! but suggests that survey respondents are weighted towards people with better than average appreciation of occupational health and safety issues.

CHARACTERISTICS OF RESPONDENTS' WORKPLACES

The distribution of the type of workplace represented was as follows:

Government and defence	142
Service (including retail)	104
Manufacturing	91
Health Care	48
Mining and logging	26
Construction	26
Transportation and distribution	20
Agriculture	18
Education	15
Public utilities	8
Other	7

The most heavily represented sector was government, which includes federal, provincial and municipal levels, followed by the service industry and manufacturing. Given the demographics of the Manitoba workforce (see Chapter 8) this is probably not an unreasonable representation although perhaps somewhat weighted towards government. It should be noted, however, that the number of respondents do not necessarily equal the number of separate organizations represented since several respondents may come from the same organization.

In terms of size, the survey response included a good representation of small workplaces. Fifty seven percent of the total respondents came from workplaces with less than 50 employees.

Approximately half the respondents were from Winnipeg, with the remainder representing 71 communities outside Winnipeg. This must be considered a more than satisfactory representation of workplaces in rural and northern Manitoba.

EMPLOYMENT OF OCCUPATIONAL HEALTH PROFESSIONALS

Respondents were asked to indicate whether their workplaces either employed or arranged for the services of occupational physicians, nurses, industrial hygienists or audiologists. The largest number of positive responses was for occupational health nurses followed by occupational health physicians (although two thirds of these were employed on a part-time basis). The distribution becomes more interesting when broken down by type of industry. Appendix II shows that the greatest percentage of physicians are employed by government or in the manufacturing sector. Equally interesting and significant for this study is the fact that overall the lowest percentage for the employment of occupational health professionals was for industrial hygienists.

AVAILABILITY OF OCCUPATIONAL HEALTH SERVICES

Respondents were asked to indicate, from a list provided, the range of occupational health services available to workers in their workplaces. Overall, responses were as follows:

TYPE OF SERVICE	NUMBER HAVING ACCESS TO
Health education	173
Drug/alcohol programs	165
Pre-employment physicals	162
Regular medical examinations	98
Audiometric testing	96
Industrial hygiene surveys/ environmental monitoring	85
Fitness programs	67
Biological testing	52

The comparatively low number indicating availability of industrial hygiene surveys or environmental monitoring programs is consistent with the response indicating low use of industrial hygienists. Government and manufacturing sectors indicate the greatest access to industrial hygiene surveys and audiometric testing.

MOST IMPORTANT PERCEIVED OCCUPATIONAL HEALTH SERVICES

One question asked respondents to indicate their own view of the three most important occupational health services as listed in the previous question. Overall, the most frequently mentioned first most important service was regular medical examinations. Most frequently mentioned second most important was again regular medical examinations followed by fitness programs with the third most important being fitness programs. Industrial hygiene surveys were given a surprising low priority overall. This may reflect a) a lack of availability of the necessary expertise, and/or b) a lack of awareness of health hazards and identification techniques.

When broken down by position, the results are not substantially different although union officials and occupational health professionals generally place a higher priority on health education. (Refer to following page.)

BARRIERS

Respondents were asked to indicate the major barriers preventing occupational health services being available in their workplaces. The most frequently mentioned barrier was lack of funds followed by size of the workplace. Surprisingly few mentioned lack of resources as a barrier.

HEALTH CONCERNS

Respondents were asked to indicate their view of the three most important health concerns in their workplaces. Overall, the most frequently mentioned first most important concern was indoor air quality followed by toxic chemicals. The most frequently mentioned second most important was safety/mechanical followed by toxic chemicals while the third most important concern most frequently mentioned was again safety/mechanical followed by toxic chemicals. Interestingly, this concern for toxic chemicals was not generally reflected by concern for the provision of industrial hygiene services as indicated above. This may suggest a lack of understanding of the use and purposes of such services and may therefore suggest the need for training in this area.

Other health concerns mentioned were: noise, muscular/skeletal, indoor air quality, ventilation and stress.

MOST IMPORTANT OCCUPATIONAL HEALTH SERVICES BY POSITION

First Most Important

Owners	Regular Medical Exams
Managers	Regular Medical Exams/Pre-employment
Occupational Health Professionals	Health Education
Union Officials	Regular Medical Exams/ Health Education
Employees	Regular Medical Exams

Second Most Important

Owners	Regular Medical Exams/ Fitness Programs
Program Managers	Regular Medical Exams/ Health Education
Occupational Health Professionals	Health Education
Union Officials	Health Education
Employees	Fitness Programs

Third Most Important

Owners	Fitness Programs
Managers	Fitness Programs
Occupational Health Professionals	Health Education
Union Officials	Drug/Alcohol Programs
Employees	Fitness Programs

APPENDIX V

CONSULTATION WORKSHOPS

APPENDIX V

PARTICIPANTS ATTENDING CONSULTATION WORKSHOPS

ORGANIZATIONS PROVIDING OCCUPATIONAL HEALTH OR RELATED SERVICES

Elin Scott	Victoria Health Guard
Dorothy Wigmore	MFL Occupational Health Centre
Donna Thompson	MFL Occupational Health Centre
J. Shiaro	CUPE and MFL Occupational Health Centre Board
Judy Cook Hannibal	MFL Occupational Health Centre
Elizabeth Ready	University of Manitoba, Target Fitness Centre
W.T. Grieve	W.M. Lab
Ed Sorba	W.M. Lab
Bev Cann	MFL Occupational Health Centre
Norma McCormick	Victoria Health Guard
Annalee Yassi	MFL Occupational Health Centre
Roland Wong	MFL Occupational Health Centre
Peter Warren	Respiratory Hospital, University of Manitoba
Allen Kraut	Department of Medicine, University of Manitoba
Cathy Ritchie	Workers Compensation Board
Deanna Parker	Workers Compensation Board
Ken Wylie	Workers Compensation Board
Carolyn Grant	Victoria Health Guard

OCCUPATIONAL HEALTH PROFESSIONALS

Dr. Peter Warner	Department of Health, Manitoba Government
Dr. Krywalak	Consultant, Occupational Medicine
Dr. Davidson	Canadian Pacific
Dr. Specht	Manitoba Chiropractors Assoc.
Dr. Bohemier	Manitoba Chiropractors Assoc.
Beverley Cann	MFL Occupational Health Centre
Suzanne Boreskie	University of Manitoba, Target Fitness Centre
Marge Lamont	Burroughs Canada (Occupational Health Nurses Interest Group - OHNIG)
Anne Skuba	Manitoba Health (OHNIG)
Julie Deakin	Manitoba Telephone System - Occupational Health Consultant
Paul Tisdale	Occupational Health Physician (MMA Section, Occupational Health)
Dr. Annalee Yassi	MMA Section on Occupational Health and MFL Occupational Health Centre
Dr. Ian Johnson	Community Medicine Resident, University of Manitoba
W. L. Davis	City of Winnipeg
Dennis Nikkel	Manitoba Chapter, AIHA
John Hindle	City of Winnipeg, Manitoba Chapter, AIHA

GOVERNMENT PROVIDERS OF OH OR RELATED SERVICES

Dan Mars	Workplace Safety and Health Division (Training)
Judy Fraser	Workplace Safety and Health Division (Training)
Dr. T. Jolly	Health and Welfare Canada, Public Service Health
Dr. Macdonald	Manitoba Health - Community Health
G. Bawden	Workplace Safety and Health Division - Industrial Hygiene
J. Bickford	Manitoba Health (Community Health)
Dr. Greensmith	Manitoba Health (as above)
N. Berard	Manitoba Environment
Ken Hawkins	Environmental Control Services
A. M. Gray	Environmental Control Services
V. MacKay	Manitoba Health Services Commission
F. Toll	Manitoba Health Services Commission
D. Hardy	Manitoba Health Services Commission
Dr. McBeath	Manitoba Health Services Commission
R. Harris	Manitoba Health Services Commission
Jane Riewe	Workplace Safety and Health Division
Lloyd Smith	
Jerry Spiegel	Department of Environment and Workplace Safety and Health, Planning Branch

EDUCATION, TRAINING AND RESEARCH

Paul Lesard	Manitoba Labour Education Centre
Lou Mousseau	Red River Community College
Don Craw	University of Manitoba
Dr. Brian Postl	University of Manitoba, Faculty of Medicine, Community and Northern Medicine
Lisa Lapointe	Department of Education PACE
Gerry Prouten	University of Manitoba, Health Services
Judith Hockney	University of Manitoba, Faculty of Nursing
Dr. J. Manfreda	University of Manitoba, Faculty of Medicine, Preventive and Social Medicine
Denys Herbert	Manitoba Safety Council
Glen Blahey	Workplace Safety and Health Division
Dan Mars	Workplace Safety and Health Division
Jane Riewe	Workplace Safety and Health Division
Ivan Sabesky	Workplace Safety and Health Division
Jocelyn Preston	Red River Community College

LABOUR GROUPS

D. Thompson	Occupational Health Centre, MFL
C. Kowalski	Winnipeg Police Association
Rick Pulako	Manitoba Teachers Society
A. Atamanchuk	Winnipeg Association of Public Service Officers
F. Thomas	Manitoba Building and Construction Trades Council
R. Beaudette	As above
F. Richliwski	As above
Patricia Cuddy	CAIMAW
Marilyn Albrecht	Manitoba Speech and Hearing Association
Vic Magian	Department of Health
Jean Minish	Manitoba Organization of Nurses Association
Rod Friskin	MFL
P. Cuddy	CAIMAW

EMPLOYER GROUPS

Dan Furlan	Human Resources Management Assoc.
Leo Cvitkovich	President, Westland Steel Products
Robert Glass	Construction Labour Relations Association
W.D. Ketner	E.H. Price
G. McMullan	Alcan Price
W. Link	Winnipeg Transit, City of Winnipeg
E. Frame	City of Winnipeg
G. Stewart	City of Winnipeg
J. Tonko	Manitoba Association of Urban Municipalities
O. Labloski	Civil Service Commission

P. Abrams	Delro/Midwest Drilling
Brian Sanderson	Bristol Aerospace
John Joba	Sperry Inc.
Glen Neustaeter	Department of Natural Resources
Jim Switzer	Department of Government Services
A. Harmesey	Manitoba Lung Association
W. Spence	Willpax Ltd.
W. Wall	University of Manitoba
Joe Schers	Highway Truck Services
B. Bernhard	Blackwoods Beverages
John Sicotte	Metro Eavestroughing
Tony Guertin	Guertin Bros. Coatings and Sealants
Ron Typliski	Hudsons Bay Mining
Robert Gerow	Sherritt Gordon
Wayne Hurlbert	Winnipeg Chamber of Commerce
Colin Dederick	Safeway
Dave Negus	Dominion Bridge
Brian Johnson	Dominion Bridge

CHAIRPERSONS, JOINT SAFETY AND HEALTH COMMITTEES

B. Gel	Canada Packers
B. McGill	Canada Packers
H. Lamers	Canada Packers
G. LaChance	Government Services
C. Buley	Government Services
Dan McNeill	Government Services
John Getty	Government Services
J. McBean	Manitoba Telephone System
Glen Armour	Manitoba Telephone System
J. Bogart	T. Eaton & Co. Ltd.
A. Hyland	Bristol Aerospace
Gord Richards	Boeing
Marilyn Copeland	Boeing
John Pfeiffer	Versatile
Larry Krocker	Versatile

CONSULTATION WORKSHOPS
DISCUSSION SUMMARY

1. ADEQUACY OF PRESENT RESOURCES

Occupational Health Professionals

- MFL Clinic has had inquiries from physicians about the role of an occupational health physician;
- Nurses have questions re the ethics of occupational health nurses.
- Educational resources are lacking for occupational health nurses and physicians (e.g. libraries and data bases).
- In the private sector, only full time physician working for INCO (no longer).
- There is a need for more trained people in the field and also for existing physicians and nurses etc. to have upgrading training in occupational health.
- Many publications are unavailable to outside sources.
- Need easier access to the computer system.

Education, Training/Research Providers

- Three elements need to be addressed: prevention promotion, clinical and research and evaluation. Occupational health is a part of training for community medicine.

- There has to be a government policy priority for occupational health services (e.g. in Finland there was a national policy that stated that occupational health was a major priority).

- Within the Faculty of Medicine at the University of Manitoba, there is a plan to move into responsibility for occupational health services for employees of the Health Sciences Centre.

- Realistically, we will not have many more certified industrial hygienists in Province. Therefore, a cost effective approach would be to train people in the workplace to perform some occupational health work.

- Lack of training for occupational health professionals.

Government Providers of Occupational Health Services

- Medical Officers of Health in rural areas cannot get information about pesticides.

Occupational Health Service Providers

- Many of those providing some occupational health or related service are not adequately trained.

- Public policy emphasis should be placed on internal responsibility system (i.e. joint committees and people in workplace). These people should be trained to do some of the work required in occupational health. Qualified professionals are not always required.

- There is a medical surveillance system for miners which has been in existence for many years. Possibly this could be expanded.

- The Federal government has a medical surveillance program for grain companies.
- The Target Fitness Centre at the University of Manitoba has been involved in employee fitness testing and do related research (e.g. firemen, policemen and prison guards).
- It is often difficult to provide any medical expertise to remote areas let alone occupational health expertise.

Labour Groups

- Industrial hygiene expertise most lacking.
- Where can equipment be obtained for monitoring programs?
- Most doctors do not recognize what may be occupationally related health problems. However, in a small rural area the doctor is likely to know a lot about his/her patients and their workplace; this does not usually apply in larger communities. There should be consultants who are specialists in occupational health for these physicians to refer to.
- With the Noise Regulation, the policy is now to train people in the workplace to do their own monitoring. However, access to an audiologist is often difficult in Manitoba.
- Expert resources need to be available for people to refer to.
- Psychological/sociological services are inadequate.

Co-Chairpersons, Joint Committees

- Present weakness is the availability of informed advice about what is required to be done about a health hazard.
- There are very few occupational health physicians in the Province. The general practitioner who often deals with occupational health related problems lacks expertise re occupational health and the workplace.
- Often a worker will consult his/her own physician and the knowledge is not passed on to anyone if the problem may be work-related. Many workers still consider the family physician the person they can most trust. Legislation would have to demand that where a problem is believed to be related to occupational health, an expert occupational health professional must be consulted.
- At Manitoba Telephone Sysytem, a worker's family physician is asked to fill in a form which is provided to the company's occupational health physician if the problem is believed to be work-related.
- Employers require the tools (resources) to cope with government legislative requirements.
- Committees are often not aware of what is going on re occupational health and do not get feedback.

Employer Groups

- Access to specialist occupational health advice is limited. Require a point of referral from general practitioners to occupational health specialist.
- The construction industry has special problems because of a lack of continuity in the workforce as well as limited contact between the employer and workers.

- Management is often unaware of occupational health problems in the workplace. Often they do not know who to refer to for expert advice and/or facilities to analyze the problem.

- There is a problem finding physicians knowledgeable about occupational health to get on retainer basis for the workplace.

- There are no industrial hygienists available. Many companies feel too small to justify employing one.

- When a hazard is identified, it is a problem getting access to equipment for monitoring. (For example, it took the City of Winnipeg six months to get appropriate equipment from the Division.)

- Need access to a central, expert source of advice - the lack of such caused widespread confusion over VDTs.

- The Government is also an employer and there is a lack of occupational health service resources. There is no central source of help/advice re occupational health. Cannot use the Division as a source as they are enforcers. The Department of Natural Resources has no funds for occupational health services. There are no means for co-ordination of occupational health services throughout government.

- Hudson Bay Mining employs no company doctor but contracts out to a local physician for service. In the north, doctors change frequently so lack continuity. An effort is made to get these doctors out to the plant (e.g. if a course on occupational health is held, a doctor is invited).

- Sometimes doctors will send people back to work too soon because they are not sufficiently aware of nature of their work.

- The private sector tried to set up Company Nurse operation in Winnipeg, but went out of business because costs were too high for most smaller companies.

- It is hard to get access to audiologist and audiometric testing expertise.

- A food business employer went to the University of Manitoba to try and get expert help with ergonomic evaluation of work stations. As well, they used the Target Fitness Centre to develop standards for fitness testing for certain jobs, but there are human rights implications.

- With compensation cases, there are problems with the doctor approving the worker to return to work before they are really fit to do work because of the doctor's lack of knowledge of the work.

- It is hard to get good ventilation advice.

- Available occupational health resources are very scattered.

- In general, health and safety programs are not big ticket expenses but the problem is in finding good sources of information and advice. In some ways, industry and suppliers are best sources of advice. Government should require manufacturers to supply safety and health information on products.

- The entire educational system is flawed because there is no occupational health and safety education in curriculums.

2. RANGE OF OCCUPATIONAL HEALTH SERVICES AND PRIORITIES

Occupational Health Professionals

- There should be a distinction between health promotion and prevention of occupational diseases. The emphasis should be on prevention of occupational diseases before health promotion.

- Of the four major functions of occupational health services, viz: health promotion, treatment, workplace hazard assessment and medical monitoring, the latter should receive primary emphasis.

- There needs to be a process to identify priorities for occupational health services and a team to identify particular needs in particular workplaces.

- Require labour/management input into the process of deciding priorities.

Education, Training/Research Providers

- Services required will depend on what is needed in specific cases--must know what the particular problems are in different workplaces--solutions will vary.

Government Providers of Occupational Health Services

- Occupational health should not be separated from life-style health considerations.

- There is a need to conduct a needs assessment of workplaces by listing potential health hazards. For federal workplaces, Labour Canada is in the second year of such an exercise (this is done by asking nurses to list hazards). Perhaps the Workplace Safety and Health Division Inspectors could do a similar exercise when undertaking inspections.

- There is a lack of information and resources in occupational health.

Occupational Health Service Providers

- Emphasis should be on primary prevention (i.e. on environmental monitoring).

- Diagnostic services should be emphasized because there are diseases/illnesses which resulted from past exposure, perhaps years ago. Medical monitoring is not primary prevention.

- In the process of doing secondary prevention. Knowledge may be picked up which will assist primary prevention.

- There is a need to develop standards on an industry-by-industry basis so that special needs can be addressed rather than a broad band approach. The Division could then develop industry specific educational materials on hazards and make them available for self-help in particular industries.

- Occupational health services should not provide treatment.

Labour Groups

- Occupational health services should have three components: medical, technical, and psycho/social.

- Occupational health services should not be treatment oriented.

Co-Chairpersons, Joint Committees

- First priority is assessment of the workplace (e.g. industrial hygiene expertise and engineering expertise).

- Primary role of an occupational health service should be early detection of disease. A secondary role is assistance in the identification of casual factors.

- Minimize service provision but more emphasis should be placed on providing a focal point of information about occupational health and available resources.

Employer Groups

- We need advice/information in order to determine whether or not a potential hazard is really a problem.

- Should get the message out to all doctors that there are sources of advice re occupational health to refer to.

- There are three areas to consider: 1) awareness: there is a need to promote awareness through education/information; 2) standards: either general or industry specific resources (quality must be considered), also a moving target because standards and expectations change; and 3) compliance: this is a joint responsibility between the employer and workers.

3. DELIVERY MODELS AND SYSTEM NEEDS

Occupational Health Professionals

- Larger industries need access to expert authorities on occupational health.

- There is a need for someone to oversee delivery of occupational health services and legal guidelines.

- The University of Manitoba, Faculty of Medicine could meet some needs (e.g. sources of expert advice). Should be multi-disciplinary (i.e. not reporting to any one faculty).

- Provision of occupational health services to workplaces in rural/remote areas could be contracted to the Medical Officer of Health but this would require changes in the Public Health Act.

Education, Training/Research Providers

- A multi-disciplinary approach is needed to analyze job hazards and determine solutions.

- The University could play a role in a system through a resource centre which would bring together all parties--could provide education and research as well as clinical expertise. Could also act as "mediator" between scientific community and local providers of occupational health services. The University has expertise and facilities. However, any such thrusts in the University must be linked to teaching and research and would require funding. Should be a link to the Division (i.e. part of a structure).

- A multi-disciplinary team is needed to provide occupational health services--a wide range of skills is needed.

- Activities need to be priorized.

Government Providers of Occupational Health Services

- There is a need for some kind of focus to achieve integration through education, information, etc.

- Could be a university based resource centre but it should be integrated with existing resources.

- A data base is the most critical resource that occupational health professionals can provide.

Occupational Health Service Providers

- Need to consider link of an occupational health service with a treatment or hospital facility. These coincide at the Health Sciences Centre.

- There is a need for better coordination so that all players are aware of what each is doing and are able to exchange information.

- Weakness is that we do not have a facility for doing developmental work (this applies especially to lab work where it is difficult to make definite conclusions, if you do not do enough of a particular analysis). The University should provide research/developmental resources.

- Occupational health services should not be company based. Occupational health services should be provided through the public health system or local hospitals.

- We need an independent locus of expertise and information.

- There should be a bi-partite commission which would get proper cooperation between the players.

- Health regions could be used as the source for occupational health services as they have appropriate facilities.

- Primary purpose of occupational health services should be detection and prevention of occupational disease--not treatment.

- There should be worker/employer participation in delivery of occupational health services.

Labour Groups

- City of Winnipeg Health Branch comes under the Personnel Section-- it is difficult to be independent if employed by the company. If there are in-plant services, these should report to the joint committee.

- The government should provide some seed money for an occupational health resource based at the University.

- There should be a separate hospital for workers.

- The MFL clinic is a good idea but it does not represent all unions.

- There should be no private sector involvement in the delivery of occupational health services.

- If a worker is required to undergo a medical exam (e.g. pre-employment) they should go to their own doctor. If a doctor finds a problem they should be required to report it to an independent body --perhaps the regional Medical Officers of Health.

- The problem is that many workers, especially in smaller companies, may not want to report health hazard problems because they are afraid of losing their jobs.

- The attitude of employers is a problem; many of them are not prepared to spend money on controlling health hazards.

Co-Chairpersons, Joint Committees

- Lack of trust is a key element. An occupational health service would have to build up a reputation and trust in the long run.

- The MFL Occupational Health Clinic should be used for occupational health services.

- The Faculty of Medicine might be a good body to provide a needed role re education of doctors and occupational health research.

- Should make use of the resources of other companies. For example, Bristol Aerospace has a lab which makes some services available. As well, Versatile could make services re noise monitoring available.

- Employers need standards, guidelines and tools to meet their occupational health related responsibilities.
- There is a need for someone to coordinate information about available resources.
- Managment co-chairpersons see nothing wrong with using the MFL clinic.

Employer Groups

- Model for delivery of veterinarian services in remote/rural areas might be a model for occupational health services delivery. Under this model, veterinarians are employed by the Province in facilities provided by government and assured of a minimum salary and then users pay on a usage basis.
- We should consider the role of the University as source of advice and training. In doing so, we should look at the need in Manitoba and what needs might be served in perhaps Saskatchewan and Alberta (e.g. we might look at some sort of regional centre).
- Since more than half the population is in Winnipeg, we should consider a centralized function.
- There are a large number of small employers outside the perimeter who often do not even know much about occupational health and safety legislation, let alone occupational health services.
- Perhaps the Winnipeg Chamber of Commerce and the Canadian Manufacturers Association should have their own resource person.
- It will be difficult to have a system in which everyone will trust.
- Smaller companies are afraid that workers will go to the MFL Clinic and then a compensation case will result.

- Larger companies should make their expertise available to smaller companies.

- Local hospitals should be used for the delivery of occupational health services where they are strategically located.

- Trade associations should have a role in promoting/providing occupational health service information specific to the industry.

- There should be a more holistic approach to health, it should not stop with the doctor.

4. HOW/WHO TO FUND, PAY FOR OCCUPATIONAL HEALTH SERVICES

Occupational Health Professionals

Education, Training/Research Providers

- The Act depends on enforcement, joint committees and employer compliance. Small companies must recognize they have a need. Larger companies should pay for their occupational health services; smaller companies should be grouped together through community health clinics.

- Division/government has to share the expenses of the small workplaces.

Government Providers of Occupational Health Services

- Companies must pay for occupational health services now required to be provided under the Act.

- Smaller companies may require assistance through the Workers Compensation Board.

Labour Groups

- There should be a tax write-off for employers who put in health hazard controls.
- The MFL clinic is funded through the Department of Health. There are health care costs incurred through unreported occupational illness.
- Occupational health services should be paid by the government and this should be financed through Workers Compensation Board assessments.
- Government should provide funding for the University to help train people required for occupational health services.

Employer Groups

- Should be on a user basis.
- Smaller businesses should be subsidized to some extent. One system might be to provide a set amount of service free (which would be sufficient for smaller businesses) and then charge after that.

Co-Chairpersons, Joint Committees

- Should be rural clinics similar to public health clinics.
- Occupational health services should be provided on a fee-for-service basis.
- Government should provide a subsidy for small companies.

5. ROLE OF JOINT COMMITTEES IN OCCUPATIONAL HEALTH SERVICES

Occupational Health Service Providers

- Committees need training in occupational health; joint committees should be involved in the provision of occupational health services.

Labour Groups

- Committees do not currently play a major role re occupational health. To do so, they need more training, time and resources.
- Construction sites which have joint committees tend to deal mainly with safety issues--probably due to a lack of information and training.
- Joint committees should be the cornerstone of occupational health services. Occupational health professionals should be available to joint committees.
- Joint committees should have more legal power re occupational health. They should be responsible for assessment.

Co-Chairpersons, Joint Committees

- There is a problem in continuity--new members every year.
- Most of the problems our committees have dealt with are safety problems. Most people can identify a safety problem but the identification of a health hazard requires special training.
- Committee members should be trained to do some environmental monitoring.

- Committee members lack expertise in occupational health.

- Committees require access to equipment and technical expertise if they are to play an effective role in occupational health.

Employer Groups

- So far most of the problems addresssed by joint committees have been safety related rather than health. One problem is that committee members often change each year so there is a problem in providing ongoing education re occupational health.

- Safety hazards are usually easy to identify with a minimum of training --this is not so with health hazards.

- It is not the role of joint committees to do industrial hygiene work but they should be trained so that they can give advice re occupational health.

6. ROLES AND REPORTING RELATIONSHIPS OF OCCUPATIONAL HEALTH PROFESSIONALS

(Occupational health physicians and occupational health nurses)

Occupational Health Professionals

- There is a need for designation (guidelines) re role of occupational health physician and nurse.

- Occupational health professionals should be accountable to the most senior person in organization.

- Most physicians delivering part-time occupational health services do not spend time looking at workplace conditions.

- Chiropractors--position is that the Chiropractic Association acts as the guardian of records if they can no longer keep them.

- Occupational health services should be provided by an in-plant group (larger organizations) and should be accountable to the most senior person. Should not be to a Personnel Department as they do not have sufficient authority. However, the occupational health professional may still be seen as the "Company Doctor".

- Occupational health doctor/nurse should report to the joint safety and health committee. This would work only if a senior executive is on the committee.

- Occupational health professionals should work with joint committees but decision making should go to the top.

Education, Training/Research Providers

- Nurses should be seen as the workers' advocate.

- If occupational health professionals are employed by the company, there will always be some element of bias.

- Doctor's responsibility is to inform patients of risks in jobs.

Occupational Health Service Providers

- Nurses often end up doing absenteeism control. We need to clearly redefine the role of occupational health professionals.

- Occupational health nurses should try and fill some of the present gaps in resources. For example, they could be trained to do some environmental monitoring in cooperation with joint committees.

- With regard to the workers' compensation system, physicians have an ethical obligation to give honest answers to patients based on the facts and to say no where the facts suggest a condition is not related to the workplace.

- Impartiality of occupational health professionals should be ensured.

- Hygienists should provide guidelines for workplaces.

Labour Groups

- Occupational health professionals in-plant should report to the joint committee only if the joint committees have more legal power.

- Occupational health physicians and nurses might report to joint committee even if still paid by employer. There is already a model for this which works--the full-time union representative who reports to the union but is paid by the employer.

Co-Chairpersons, Joint Committees

- One half the salary of the occupational health physician should be paid by the union.

- In-plant physicians and nurses should be more involved with prevention.

- The contract part-time physician does not have time to go out and inspect the workplace.

- An independent reporting structure is required.

Employer Groups

- Physicians employed by government will not be viewed as impartial.

- There is a need for impartial service because of the adversarial relationships but there must also be expertise and credibility.

- If the employer is going to pay, then he/she has the right to select the occupational health professional.

- Occupational health professionals sshuld report to the joint committee in terms of programs and progress.

- There should be no problem in getting committee approval re appointment of occupational health professional.

7. ROLE OF GOVERNMENT RE OCCUPATIONAL HEALTH SERVICES

Occupational Health Professionals

- Government is also an employer and should set an example and provide occupational health services for their employees. There is none at present.

- The role of government re occupational health services should be:

  - to oversee the quality of services;
  - to oversee the provision of occupational health services for government employees;
  - to set standards and policies;
  - to establish an occupational disease surveillance system;
  - to enforce regulations; and
  - to provide services where services cannot be provided elsewhere.

Government Providers of Occupational Health Services

- Manitoba Health Services Commission (at present time): There is no way that data could be used for identification of occupational disease. But perhaps the Manitoba Health Services Commission could cooperate in a special study. For example, ask doctors to report occupational disease for six month period to link Manitoba Health Services Commission data with Compensation Board files.

- Up to 1973, there was a premium collection system where employers were billed for employees. This would have been helpful but there is no longer such a requirement. Other provinces have an annual registration process (e.g. Saskatchewan).

- There is currently a National Task Force looking at a system for notification of occupational disease. Could use Manitoba Health Services Commission data for epidemiology research. There is currently no kind of register of occupations.

7.1 Role of the Workplace Safety and Health Division

Occupational Health Professionals

- The present role of the part time physician in the Division is too limited; no access/input into policy decisions.

- The government's role is to create a situation where health interests of workers can be protected (i.e. to investigate and order things to be done). This should not be the role of the doctor and nurse.

- It is not possible for one person to be the source of expertise in all areas of occupational health.

- The government is perceived as enforcers not as experts.

- The Workplace Safety and Health Division does not have access to occupational health medical expertise when making decisions and they should have.

- The role of the COMO in the Division needs to be considered to ensure that there is direct involvement in policy development. At present, the COMO is only asked for an opinion when considered necessary by non-medical people. Organizational changes are necessary for the physician to perform an effective role in the Division. Perhaps the occupational health physician should be employed by Department of Health.

Education, Training/Research Providers

- Government has a policing and an advisory role.

- Government also has role in setting standards and regulations.

- The role of the physician and nurse in the Division was not defined in the past.

- Government may also have a role in provision of education and training because of the size of the province.

Government Providers of Occupational Health Services

- The Division does not work closely enough with the Workers Compensation Board--should share more information.

Occupational Health Service Providers

- The primary role of government must be to set standards and enforce them. They should not be providing services except where no one else can.

- Government has two roles: 1) to establish regulations and enforce them; and 2) to provide consultation services. However, there should be a strict organizational separation between these two roles. It is difficult for personnel to wear two hats at the same time.

- Government should be developing standards and rules relating to occupational health services.

- The role of Government should be to coordinate information and resources and inform people what expertise is available and where.

- Government should collect information about the hazards of particular industries and make this available to those in the respective industry.

- Environmental health should not be separated out from occupational health in organizational terms.

Labour Groups

- Enforcement should be separate from the provision of occupational health services. For example, there could be two sections in the Division: "Enforcement" and "Resources".

- Neutrality would not be achieved if occupational health services were run by the Division.

- The Division should concentrate more on enforcement.

- Role of the Division: Education; Enforcement; and Standard Setting.

- Older inspectors do not tend to spot as many potential health hazards as the younger ones.

- There must be an information base which lists potential health hazards against the type of industry or process. Government should start with this base and deal with identified problems on an industry-by-industry basis. Health surveys could also be used as a means of identifying problems.

- The technical knowledge about health hazards in most industries must be available in the literature. The problem is that this information is not made available to employers, workers and joint committees in particular workplaces. It should be made available to them in a form which they can use. The Division should start with joint committees in disseminating this information.

Co-Chairpersons, Joint Committees

- Government should provide services only where they are not available elsewhere. But, in general, government's role should be restricted to enforcement and minimal information provision.

Employer Groups

- It is important how the Division is set up to provide services. Cannot have training people who are also enforcers--should be a clear organizational distinction between services and enforcement. The Division also needs more expert trainers in occupational health.

- It would be helpful if the Division developed training material and sent it out for delivery in the workplace.

- Difficult for the Division to be both an enforcer and a helper. We do not expect services from government.

- Government should publish occupational health information for specific industries.

7.2 Role of Public Health (MOH's)

Government Providers of Occupational Health Services

- Medical Officers of Health should play some role in health education. They have expertise which would be useful in this area of occupational health services.

- Public health professionals have special experience. Their training is more prevention oriented and this could be regarded as a resource for occupational health services.

- The Department of Health is currently revising the Public Health Act--should consider a role in occupational health education re hazards but would require a source of information.

- Should be a link between occupational health and public health.

Labour Groups

- Community clinics should be trained to recognize occupational health related problems--especially outside Winnipeg.

- Part of the problem is the attitude of doctors. In small communities they are often not prepared to acknowledge what may be occupationally related problems publicly. But if they had some relationships with regional Medical Officers of Health (e.g. a reporting relationship regarding occupational health problems), it would be easier for them to report such problems.

- If people in small companies knew that there was an independent source of information available where they could go to regarding health concerns this would help. It is already a responsibility of the Medical Officers of Health to educate the community re disease/illness prevention.

Employer Groups

- Perhaps Community Health Services should be expanded to include occupational health.

7.3 Role of Public Health Inspectors

Government Providers of Occupational Health Services

- Public Health Inspectors do go into some workplaces. If they see a workplace hazard, they report it to the Workplace Safety and Health Division.

- In the current training for Public Health Inspectors there is some relevant training for occupational health. Also Public Health Inspectors have been trained re transportation of dangerous goods--some relevance for workers.

- There is a current duplication of resources between Workplace Safety and Health Inspectors, Public Health Inspectors and Public Health Nurses--there is some overlapping of functions. There should be more effective use made of these resources.

- Public Health Inspectors effectively wear three hats--Clean Environment Act, Public Health Inspectors under Public Health Act and Dangerous Goods Handling and Transportation Act.

8. MEDICAL MONITORING

8.1 Mandatory Medical Testing

Labour Groups

- Medical tests/examinations for occupational purposes should be mandatory if the worker can choose their own physician; the occupational health professional reports to the joint committee and thus, the joint committee shares in the decision as to what tests should be mandatory. The results of any tests should go back to the joint committee.

- Individual information identifying a worker should not be disclosed to the committee without consent.

8.2 Confidentiality of Records

Occupational Health Professionals

- Occupational health nurses have some difficulty re health records--not certain if they have the right to deny access to the employer. There is also a problem of who receives the records when the nurse leaves.

Co-Chairpersons, Joint Committees

- Occupational health nurses are unsure about medical ethics and confidentiality.

Education, Training/Research Providers

- There are problems of confidentiality of records especially with regard to occupational health nurses.

9. ROLE OF OCCUPATIONAL HEALTH SERVICE RE WORKERS COMPENSATION

Co-Chairpersons, Joint Committees

- Workers Compensation Board assessments should provide some incentive for prevention programs.

- Information kept by the Workers Compensation Board should be utilized effectively to help prevent occupational disease/illness.

Education, Training/Research Providers

- Workers' compensation is a strictly medical matter--this should be kept separate from occupational health services which must be seen in a neutral role. Occupational health services should be strictly prevention oriented.

Occupational Health Service Providers

- The Workers Compensation Board is only responsible under the Act for diseases and illnesses related to the workplace. The major purpose of the Board is to adjudicate claims. In this respect, it could be argued that the Act was intended to remove compensation from an adversarial system but in effect it simply moved it from the Courts to the Board.

- An occupational health service should not have any mandate regarding compensation claims and should not generally deal with the Board except for purposes of providing information.

- Occupational health service teams should not be directly involved with workers' compensation claims but individual physicians may be.

- The Board has no mandate regarding prevention but it is involved in rehabilitation.

- Workers Compensation Board staff need more training regarding occupational health.

Co-Chairpersons, Joint Committees

- Board assessments should provide some incentive for prevention programs.

Employer Groups

- Board assessments should go towards prevention rather than enforcement. We should spend more on the front end.

10. EDUCATION/TRAINING NEEDS

Occupational Health Service Providers

- Training is needed at three levels: 1) in the workplace (employers, employees and joint committees); 2) at the university level especially in the area of chemistry and toxicology; and 3) at the college level.

- There is too much of a myth about industrial hygiene. Much of the work could be done by non-qualified people in the workplace with suitable training and information.

Labour Groups

- Training in occupational health is needed at three levels within the school system: 1) high schools, especially vocational schools, including pupils and teachers; 2) trustees of school boards; and 3) administrators.

Employer Groups

- The Division only provides introductory courses, we need more advanced training. The Division should consider train-the-trainer courses.
- The Divison should be more sensitive to new training needs.
- Perhaps the Division should provide training on a user-pay basis.
- The Manitoba Safety Council asked Environment and Workplace Safety and Health for a grant for occupational health and safety training but did not receive it.
- Training should be done in the workplace.
- WorkSafe! should be more educationally directed.
- Managers today are a different breed. They are more conscious of workers' needs and values, but many employees are simply not aware of the dangers.
- Professional training facilities are not adequate in Province.
- Trade magazines could be used to stimulate awareness among the small employers.

10.1 Joint Committees

Labour Groups

- Need more training as well as resources (e.g. more time to do occupational health work in the workplace).

Co-Chairpersons, Joint Committees

- Joint committees need training about health hazards (e.g. to understand terms such as TLV's and decibels). They need to have sufficient information to be able to assess whether or not there is a health hazard and what needs to be done about it.

- Need training to do their own workplace assessments.

Employer Groups

- In the construction industry because of fluid employer/employee relationship, we do not have continuity through joint committees. We need trades people trained in occupational health.

- We need better access to training for joint committees re occupational health. Present courses offered by the Division are not sufficient. We need ongoing training and as well as some vehicle for disseminating information.

10.2 Workers

Education, Training/Research Providers

- Need to provide training in occupational health at the high school level.

Co-Chairpersons, Joint Committees

- Need basic information about health hazards (e.g. what the terms mean, validity of exposure criteria etc).

10.3 Managers/Supervisors

Labour Groups

- Management is not generally well informed about occupational health--they should have more training.
- Managers need to know their roles in occupational health programs.

Employer Groups

- There is a need for some training for senior managers in occupational health--they need some factual basis on which to operate.
- Training for senior managers should include legal rights and responsibilities and also when and how to investigate problems and how to relate to physicians (i.e. their roles).

10.4 Physicians

(Especially family physicians)

Government Providers of Occupational Health Services

- There is a need for occupational health related information to be provided to physicians especially in small towns.
- Traditional medical teaching is treatment oriented.
- For most physicians, occupational disease is an unknown quantity. Occupational health specialists should have a responsibility to inform physicians where they should look for expert information/advice, the risks re occupational health and symptoms to look for.

- Physicians in small local hospitals often lack knowledge about dealing with emergencies involving chemicals.

Occupational Health Service Providers

- When biological samples are sent back to the physicians, they often do not have the experience/training to interpret the numbers.

- Family/community physicians need training in occupational health but they also need access to an information resource.

Employer Groups

- Perhaps the Manitoba Medical Association should play a role in identifying physicians interested in learning more about occupational health and providing training for them.

- Better training is required for doctors, especially general practitioners. Doctors are supposed to keep up-to-date. The medical profession should hold conferences on occupational health.

Co-Chairpersons, Joint Committees

- Family physicians need some training in occupational health as they are often the first to identify a health problem.

10.5 Occupational Health Professionals

Occupational Health Professionals

- Should be a chair in industrial hygiene at the University.

Education, Training/Research Providers

- Physicians and nurses must be trained in epidemiology and research techniques--must also know how and where to access other sources of expertise.

Government Providers of Occupational Health Services

- Priority should be placed on the training of professionals. Resources are currently scattered at the University.

Occupational Health Service Providers

- Need for post-graduate qualification in industrial hygiene.
- Nurses need information about hazards associated with their industry.

11. INFORMATION NEEDS

Occupational Health Professionals

- Require access to sources of expert advice/information; information regarding chemicals.

Education, Training/Research Providers

- There is a need for a focus of expertise.

Government Providers of Occupational Health Services

- There is a need to provide and collect information re occupational health and for occupational health services.

- There is a need for information about pesticides and health effects--nobody knows about resulting toxic effects and how to deal with them. Perhaps there is a need for an emergency information source for hospitals to get immediate access to information for dealing with acute situations (e.g. like the poison line).

- Need for an emergency "Hot Line" re chemical exposures in workplaces.

- Should link Manitoba Health Services Commission files with Workers Compensation Board files in order to determine costs for occupationally related diseases.

Occupational Health Service Providers

- The Workers Compensation Board should be available and used for prevention purposes.

- Family/community physicians need information about causes and symptoms of occupational disease/illness.

Labour Groups

- The construction industry needs access to information about chemicals and other health hazards and often require the information quickly. For example, with asbestos removal at Polo Park it was difficult to get expert information quickly.

- There is a need to provide expert information to those in the workplace re occupational health. This should come from an independent source and should be put into an easy to understand format --not too technical.

- Material safety data sheets are not always easy to understand or helpful in assessing control implications.

- The University might provide a central source of information which would be regarded as independent.

Co-Chairpersons, Joint Committees

- Perhaps a weakness in information is informed advice about what should be done re health hazards.

Employer Groups

- Employers need some medical information re workers' health so that they know what action to take.

12. SMALL WORKPLACES

(Including Agriculture)

Occupational Health Professionals

- Government will have to assume more responsibility for smaller workplaces.

Education, Training/Research Providers

- There is a need for a Resource Centre for occupational health to: provide a source of expert information; collect data; and carry out research.

Government Providers of Occupational Health Services

- Agriculture is an area where there are few resources available for occupational health.

- The Department of Agriculture has a responsibility to educate farmers on pesticides.

Occupational Health Service Providers

- Agriculture is a major problem with regard to occupational health hazards. The Workplace Safety and Health Division and the Department of Agriculture should cooperate to resolve this.

APPENDIX VI

LIST OF WRITTEN BRIEFS SUBMITTED

APPENDIX VI

WRITTEN BRIEFS RECEIVED

TITLE/SUBJECT	NAME	ORGANIZATION
Occupational Health	Ms. J. Cook Hannibal	MFL Occupational Health Centre
Role of Teaching Hospitals in Occupational Health Service Provision	Dr. C.P.W. Warren	University of Manitoba Faculty of Medicine, Respiratory Diseases
Services/Resources Potentially Available at AECL	Dr. J.L. Weeks	Atomic Energy of Canada Ltd.
Occupational Health Service Delivery Models and Role of Joint Committees	Gary Kowalski	Winnipeg Police Association
Role of Medical Monitoring in Occupational Health	Allen Kraut	Physician in Training
Role of Community Medicine in Occupational Health Services Delivery	Dr. B. Postl	University of Manitoba Faculty of Medicine Northern and Community Medicine

Role of Ergonomics - Proposal for Creation of Canadian Biomechanics	Richard Corbett	Chiropractic Foundation for Spinal Research
Generally re Occupational Health Services		Manitoba Occupational Health Nurses Interest Group (MARN)
Training and Role of Legislation	D.A.J. Herbert	Manitoba Safety Council
Technical Service Lab Perspective	W. Grieve	W.M. Ward Technical Services Laboratory
Generally re Occupational Health Services		Manitoba Labour Education Centre
Occupational Health Unit for Government Employees	J. Switzer	Department of Government Services

APPENDIX VII

LIST OF INTERVIEWS

APPENDIX VII

INTERVIEWS FOR STUDY

Earl McCarthy	Employment Services
Ian Blicq	Industry, Trade and Technology Health Initiatives Sector
Roland Wong	Department of Health and part-time physician for MFL Occupational Health Clinic
Dr. Peter Warner	CUPE
Annalee Yassi	MFL Occupational Health CLinic
Norma McCormick	Victoria Health Guard - Victoria General Hospital
Anne Skuba	Department of Health
Sharon McDonald	Department of Health
Dr. Manfreda	University of Manitoba, Faculty of Medicine, Social and Preventive Medicine Section

Dr. Postl	University of Manitoba, Faculty of Medicine, Community of Northern Medicine Section
Gordon McPherson	Canadian Manufacturers Association
Dale Botting	Canadian Federation of Independent Businesses
Dr. Milton Tennebein	Director, Poison Control Centre Health Sciences Centre
Dr. Sandy McPherson	Chief Medical Officer of Health City of Toronto, Ontario
Various Officials	Quebec Commission de la Sante et de la Securite du Travail

APPENDIX VIII

COMMUNITY HEALTH CLINICS IN MANITOBA

APPENDIX VIII

COMMUNITY HEALTH CLINICS IN MANITOBA

Klinic, Inc.

Primary Health Care	6,737	
Outreach	4, 61	
Group Activities	3,499	
Counselling		
In Person	1,259	
Crisis Line	11,084	
Group Encounters	570	
TOTAL	27,410	
		27,410

Mount Carmel Clinic

Medical	34,128	
Nursing		
In Clinic	497	
Out of CLinic	379	
Group Classes	490	
Radiology	1,848	
Laboratory	3,177	
Day Hospital for Children	318	
Pharmacy	3,357	
TOTAL	44,194	
		44,194

Women's Health

Primary Health	4,411	
Counselling	391	
Group Sessions	241	
Outreach	100	
TOTAL	5,143	
		5,143

Clinique Youville Clinic

Counselling	688	
Social Work	333	
Group Activities	2,450	
Maternal Family Planning	182	
TOTAL	3,653	
		3,653

Nor'West Health Co-op

Medical	2,082	
		2,082

Health Action Centre

Primary Health Care	3,572	
Health Services for Elderly		
Outreach		
Multiple Sclerosis CLinic		
Maternal Child Health		
Adult Day Care		
TOTAL	3,572	
		3,572

Hamiota District Health

Primary Care	9,986	
Outreach		
TOTAL	9,986	
		9,986

Churchill Health Centre

Primary Care	9,674	
Outreach		
TOTAL	9,674	
		9,674

Lac du Bonnet

Primary Care	0
Outreach	0

Leaf Rapids

Primary Care	3,185	
Outreach		
TOTAL	3,185	
		3,185

Gladstone - Seven Regions Health Centre

Primary Care	3687	
Outreach		
TOTAL	3,687	
		3,687
GRAND TOTAL		112,311

The current information for 1986/1987 is not yet available but will be somewhat like this data. Until such time as all centres are on-line, the information will be limited and inconsistent.

Source: Manitoba Health Services Commission, Department of Health

APPENDIX IX

ILO CONVENTION AND RECOMMENDATIONS

Convention 161

CONVENTION CONCERNING OCCUPATIONAL HEALTH SERVICES

The General Conference of the International Labour Organisation,

Having been convened at Geneva by the Governing Body of the International Labour Office, and having met in its Seventy-first Session on 7 June 1985, and

Noting that the protection of the worker against sickness, disease and injury arising out of his employment is one of the tasks assigned to the International Labour Organisation under its Constitution,

ting the relevant international labour Conventions and Recommendations, and in particular the Protection of Workers' Health Recommendation, 1953, the Occupational Health Services Recommendation, 1959, the Workers' Representatives Convention, 1971, and the Occupational Safety and Health Convention and Recommendation, 1981, which establish the principles of national policy and action at the national level,

Having decided upon the adoption of certain proposals with regard to occupational health services, which is the fourth item on the agenda of the session, and

Having determined that these proposals shall take the form of an international Convention;

Adopts this twenty-sixth day of June of the year one thousand nine hundred and eighty-five the following Convention, which may be cited as the Occupational Health Services Convention, 1985:

PART I. PRINCIPLES OF NATIONAL POLICY

Article 1

For the purpose of this Convention–

(a) the term "occupational health services" means services entrusted with essentially preventive functions and responsible for advising the employer, the workers and their representatives in the undertaking on–

  (i) the requirements for establishing and maintaining a safe and healthy working environment which will facilitate optimal physical and mental health in relation to work;

  (ii) the adaptation of work to the capabilities of workers in the light of their state of physical and mental health;

(b) the term "workers' representatives in the undertaking" means persons who are recognised as such under national law or practice.

Article 2

In the light of national conditions and practice and in consultation with the most representative organisations of employers and workers, where they exist, each Member shall formulate, implement and periodically review a coherent national policy on occupational health services.

Article 3

1. Each Member undertakes to develop progressively occupational health services for all workers, including those in the public sector and the members of production co-operatives, in all branches of economic activity and all undertakings. The provision made should be adequate and appropriate to the specific risks of the undertakings.

2. If occupational health services cannot be immediately established for all undertakings, each Member concerned shall draw up plans for the establishment of such services in consultation with the most representative organisations of employers and workers, where they exist.

3. Each Member concerned shall indicate, in the first report on the application of the Convention submitted under article 22 of the Constitution of the International Labour Organisation, the plans drawn up pursuant to paragraph 2 of this Article, and indicate in subsequent reports any progress in their application.

Article 4

The competent authority shall consult the most representative organisations of employers and workers, where they exist, on the measures to be taken to give effect to the provisions of this Convention.

PART II. FUNCTIONS

Article 5

Without prejudice to the responsibility of each employer for the health and safety of the workers in his employment, and with due regard to the necessity for the workers to participate in matters of occupational health and safety, occupational health services shall have such of the following functions as are adequate and appropriate to the occupational risks of the undertaking:

- *(a)* identification and assessment of the risks from health hazards in the workplace;
- *(b)* surveillance of the factors in the working environment and working practices which may affect workers' health, including sanitary installations, canteens and housing where these facilities are provided by the employer;
- *(c)* advice on planning and organisation of work, including the design of workplaces, on the choice, maintenance and condition of machinery and other equipment and on substances used in work;
- *(d)* participation in the development of programmes for the improvement of working practices as well as testing and evaluation of health aspects of new equipment;
- *(e)* advice on occupational health, safety and hygiene and on ergonomics and individual and collective protective equipment;
- *(f)* surveillance of workers' health in relation to work;
- *(g)* promoting the adaptation of work to the worker;
- *(h)* contribution to measures of vocational rehabilitation;
- *(i)* collaboration in providing information, training and education in the fields of occupational health and hygiene and ergonomics;
- *(j)* organising of first aid and emergency treatment;
- *(k)* participation in analysis of occupational accidents and occupational diseases.

PART III. ORGANISATION

Article 6

Provision shall be made for the establishment of occupational health services

- *(a)* by laws or regulations; or
- *(b)* by collective agreements or as otherwise agreed upon by the employers an workers concerned; or
- *(c)* in any other manner approved by the competent authority after consultatio with the representative organisations of employers and workers concerned.

Article 7

1. Occupational health services may be organised as a service for a singl undertaking or as a service common to a number of undertakings, as appropriate

2. In accordance with national conditions and practice, occupational healt services may be organised by—

- *(a)* the undertakings or groups of undertakings concerned;
- *(b)* public authorities or official services;
- *(c)* social security institutions;
- *(d)* any other bodies authorised by the competent authority;
- *(e)* a combination of any of the above.

Article 8

The employer, the workers and their representatives, where they exist, shall co-operate and participate in the implementation of the organisational and other measures relating to occupational health services on an equitable basis.

PART IV. CONDITIONS OF OPERATION

Article 9

1. In accordance with national law and practice, occupational health servic should be multidisciplinary. The composition of the personnel shall be determine by the nature of the duties to be performed.

2. Occupational health services shall carry out their functions in co-operation with the other services in the undertaking.

3. Measures shall be taken, in accordance with national law and practice, to ensure adequate co-operation and co-ordination between occupational health services and, as appropriate, other bodies concerned with the provision of health services.

Article 10

The personnel providing occupational health services shall enjoy full professional independence from employers, workers, and their representatives, where they exist, in relation to the functions listed in Article 5.

The competent authority shall determine the qualifications required for the personnel providing occupational health services, according to the nature of the duties to be performed and in accordance with national law and practice.

Article 12

The surveillance of workers' health in relation to work shall involve no loss of earnings for them, shall be free of charge and shall take place as far as possible during working hours.

Article 13

All workers shall be informed of health hazards involved in their work.

Article 14

Occupational health services shall be informed by the employer and workers of any known factors and any suspected factors in the working environment which may affect the workers' health.

Article 15

Occupational health services shall be informed of occurrences of ill health amongst workers and absence from work for health reasons, in order to be able to identify whether there is any relation between the reasons for ill health or absence and any health hazards which may be present at the workplace. Personnel providing occupational health services shall not be required by the employer to verify the reasons for absence from work.

PART V. GENERAL PROVISIONS

Article 16

National laws or regulations shall designate the authority or authorities responsible both for supervising the operation of and for advising occupational health services once they have been established.

Article 17

The formal ratifications of this Convention shall be communicated to the Director-General of the International Labour Office for registration.

Article 18

1. This Convention shall be binding only upon those Members of the International Labour Organisation whose ratifications have been registered with the Director-General.

2. It shall come into force twelve months after the date on which the ratifications of two Members have been registered with the Director-General.

3. Thereafter, this Convention shall come into force for any Member twelve months after the date on which its ratification has been registered.

1. A Member which has ratified this Convention may denounce it after th expiration of ten years from the date on which the Convention first comes int force, by an act communicated to the Director-General of the International Labou Office for registration. Such denunciation shall not take effect until one year afte the date on which it is registered.

2. Each Member which has ratified this Convention and which does not, withi the year following the expiration of the period of ten years mentioned in th preceding paragraph, exercise the right of denunciation provided for in this Article will be bound for another period of ten years and, thereafter, may denounce th Convention at the expiration of each period of ten years under the terms provide for in this Article.

Article 20

1. The Director-General of the International Labour Office shall notify al Members of the International Labour Organisation of the registration of al ratifications and denunciations communicated to him by the Members of the Organisation.

2. When notifying the Members of the Organisation of the registration of the second ratification communicated to him, the Director-General shall draw the attention of the Members of the Organisation to the date upon which the Convention will come into force.

Article 21

The Director-General of the International Labour Office shall communicate to the Secretary-General of the United Nations for registration in accordance with Article 102 of the Charter of the United Nations full particulars of all ratifications and acts of denunciation registered by him in accordance with the provisions of the preceding Articles.

Article 22

At such times as it may consider necessary the Governing Body of t International Labour Office shall present to the General Conference a report o the working of this Convention and shall examine the desirability of placing on the agenda of the Conference the question of its revision in whole or in part.

Article 23

1. Should the Conference adopt a new Convention revising this Convention in whole or in part, then, unless the new Convention otherwise provides–

(a) the ratification by a Member of the new revising Convention shall *ipso jure* involve the immediate denunciation of this Convention, notwithstanding the provisions of Article 19 above, if and when the new revising Convention shall have come into force;

(b) as from the date when the new revising Convention comes into force this Convention shall cease to be open to ratification by the Members.

content for those Members which have ratified it but have not ratified the revising Convention.

Article 24

The English and French versions of the text of this Convention are equally authoritative.

APPENDIX X

OCCUPATIONAL HEALTH SERVICES IN QUEBEC

APPENDIX X

OCCUPATIONAL HEALTH SERVICES IN QUEBEC

INTRODUCTION

This paper describes the current system for the provision of occupational health services in the Province of Quebec and the legal framework for occupational health and safety within which such services are provided. It is based on a recent visit to Quebec and the Quebec Commission for Occupational Health and Safety (CSST) by the writer. It is also based upon a review of Quebec's legislation and various CSST publications. This review has been prepared as part of the process of reviewing other models for the provision of occupational health services for the current study of occupational health services in Manitoba.

OCCUPATIONAL HEALTH AND SAFETY AND PUBLIC POLICY IN QUEBEC

In 1979, Quebec, in line with the general trend in other Canadian jurisdictions, radically revised its regulatory approach to occupational health and safety. While its new Act (An Act Respecting Occupational Health and Safety) incorporated many features now common to most jurisdictions in Canada (for example, the right to participate in joint committees, the right-to-refuse work, and the right to certain information) the Quebec law reflected some unique features. Of these, perhaps the most significant was the organizational model it set up for the administration of occupational health services legislation.

The trend in most Canadian jurisdictions has been to consolidate health and safety legislation and place jurisdictional responsibility in one Ministry. By contrast, Quebec conferred such responsibility on a bi-partite commission (the CSST). This commission consists of seven employer and seven labour representatives and a chairperson appointed by the Government. It is independent of any government department and has responsibility for most aspects of the occupational health and safety regulatory system, including: compensation, prevention, standard setting and enforcement and research. At the present time, only one other Canadian jurisdiction has followed Quebec's lead in this regard--the Province of New Brunswick now has a similarly constituted commission.

The bi-partite approach in Quebec does not stop at the commission level. In effect, Quebec has a three-tiered bi-partite system within its regulatory system. At the second level, there is provision for the establishment of joint sectoral committees. These are set up through voluntary agreement between employer and union groups within a particular industrial sector. Once set up and approved by the CSST, there is provision for their funding through the CSST.

At the third (or workplace) level, there are joint health and safety committees. (See Appendix A for a chart illustrating this three-tiered system.)

Quebec has also recently revised its Workers' Compensation legislation.

Quebec's regulatory system provides for occupational health services to be made available to designated workplaces through the public/primary health care system. Although not directly under the control of the CSST, such occupational health services must conform to legal requirements set out in the Occupational Health and Safety Act and are subject to budgetary controls imposed by the CSST. It is important to note that to some extent labour/management acceptance of the system for the provision of occupational health services depends upon the whole regulatory system for occupational health and safety. The current concept for the provision of such services was not an isolated exercise but was part of a major review of the regulatory system.

For this reason, it is worth examining briefly some aspects of the regulatory system.

Quebec's Occupational Health and Safety Act

- Quebec's Act Respecting Occupational Health and Safety was introduced in 1979. It was brought into effect by stages on various industrial sectors. For the purposes of such phased implementation, the CSST initially identified two priority groups of industrial sectors, the chief criterion being relative risk factors. The first two such groups included: the chemical industry, mines and quarries, manufacturing of metal products, the rubber and plastics industry and primary metal processing. Industries within these two groups were the first to be required to develop "Prevention Programs" (see below) and to have occupational health services established for them. Requirements relating to joint health and safety committees also applied first to these two groups.

- Significant features of Quebec's Occupational Health and Safety Act, particularly those which relate directly to the provision of occupational health services, are examined below.

Joint Health and Safety Committees

- A joint committee is established in designated establishments with 20 or more employees where there is a written request to the employer by a certified union association or where there is no union, by at least 10% of the workers. A copy of such a request must also be sent to the CSST. The legal rights and responsibilities assigned such committees go well beyond the norm in other Canadian jurisdictions including Manitoba.

- Such rights include:
  The right to:

  a) choose the physician to be in charge of the occupational health services for the workplace;

  b) approve the health program provided by such a physician;

  c) select the appropriate personal protective equipment for the workplace in accordance with regulatory requirements; and

  d) establish health and safety training and information programs for the workplace.

- Joint committees must submit annual reports of their activities to the CSST including the information specified by regulation. This is in contrast to other jurisdictions where committees are required to submit copies of the minutes of each of their meetings. The Quebec provision facilitates review and monitoring by the CSST of committee performance.

Joint Sector Based Associations

- These are established by agreement between one or more employer associations and one or more unions representing the same industrial sector. Such associations must meet the requirements of the Act with respect to organizations and functions. They must be administered by boards of directors containing equal numbers of employer and union representatives and they must have an agreed upon procedure for the settlement of disputes. The CSST is empowered under the Act to grant annual subsidies to these Associations for the purpose of carrying out their legal responsibilities. These include preparing and providing training and information programs for joint committees and cooperating with Community Health Departments in the carrying out of studies relating to the health of workers.

- Joint sector based associations must also submit annual reports of their activities to the CSST. At the present time, approximately 15 such associations have been established.

Protective Re-assignment

- The Act provides the right to any worker to request re-assignment if exposed to a contaminant which is affecting his/her health. Such worker must provide a certificate verifying this, signed by his/her own physician or the physician in charge of the workplace. If re-assignment is not possible, he/she is entitled to pay for the first five days by the employer and thereafter to compensation through the Board. Similar provisions apply to pregnant women. In both cases, the Community Health Departments (through which occupational health services are provided) have the primary responsibility for the decision that the worker be removed from further exposure.

- Apart from this involvement with protective re-assignment, CSST officials maintain that Community Health Departments do not involve themselves with individual workers' compensation claims.

Prevention Programs

- Employers in designated categories must develop and implement a prevention program. Such a program is to cover: standards and procedures to ensure that regulations are implemented in the workplace; requirements for suitable personal protective equipment; health and safety education and training programs. The last two items must be in accordance with joint committee requirements since these fall within their area of responsibility.

- The prevention program must be submitted to the CSST for approval after perusal by the joint committee. Thereafter, copies must be provided to the joint committee, the joint sectoral committee and the physician in charge of the workplace.

- To some extent, there may be an overlap between prevention programs and the health programs required to be developed by the occupational health service (see below). CSST officials say that the health plan may be used to ensure that suitable health and safety priorities have been identified in the prevention program. In general, the prevention program is more oriented to control procedures, whereas the health plan emphasizes identification and assessment.

Legal Requirements Relating to Occupational Health Services

- Under the Act, the CSST determines priorities for the development of occupational health programs for particular workplaces. To deliver such services, the CSST contracts with Community Health Departments (attached to local hospital centres) which fall under the Department of Health and Social Services.

- The CSST assigns a budget to each Community Health Department providing occupational health services to pay for staff required and costs connected with analysis and premises. Professional health staff required are renumerated through the health care system but provision is made for the CSST to reimburse these costs. Note, however, that staffing levels and workplaces to be services are decided by the CSST.

- The Act also provides for in-plant occupational health services which existed at the time the Act came into force to be recognized provided that they met specified criteria and that they are approved by the Community Health Department. A request for recognition of such services must come with the approval of the joint committee where such exists or a majority of the workers in the establishment. At the present time, a number of such in-plant services have been so recognized--approximately 120.

- Physicians in charge of workplaces (who must be approved by the joint committee) work out of Community Health Departments (or local community health centres--see Appendix A). A major responsibility assigned such physicians by the Act is to develop specific health programs for each of the establishments for which they are responsible. These health programs must contain specified components, for example:

  a) measures designed to identify health risks in the workplace;

  b) identification of particular health characteristics required for jobs;

  c) medical surveillance;

  d) pre-employment medical examinations as required by regulations;

  e) first aid; and

  f) keeping of registers of workers exposure to contaminants.

Other responsibilities of physicians in charge of health services include:

a) submitting the Health Program to the joint committee for approval;

b) visiting the workplace regularly;

c) maintaining confidentiality of medical records but making these available to the worker on request; and

d) notifying a worker of any situation which poses a health risk to him/her in the workplace.

As can be seen from this brief description of the legal provisions relating to occupational health services, the orientation of such services is intended to be workplace health hazard as well as worker health surveillance. This is borne out in practice by the staffing of occupational health services in Community Health Departments as discussed below.

Act Respecting Industrial Accidents and Occupational Diseases

Quebec's Workers' Compensation Act has recently been revised and contains a number of new features including:

- Workers submitting claims for injury or illness are entitled to be examined by a physician of their choice. Thus, a physician must report to the Board (CSST) providing his/her opinion as to the diagnosis, cause/effect relationship etc. The Board is obliged to accept this physician's opinion. However, either the Board or the employer may require the worker to be examined by another physician and then contest the findings of the first physician. Separate provisions apply in the case of occupational pulmonary diseases where the worker has to be examined by a committee on occupational lung diseases appointed by the Minister.

- Workers on compensation have a legal right to return to work within specified limits (one or two years depending on the size of the workplace).

- The Act establishes a new appeal board--the Commission d'Appel en Matiere de Lesions Professionnelles--which is empowered to hear all appeals under the Compensation Act and the Occupational Health and Safety Act.

FUNCTIONING OF THE CSST

As has been explained above, the CSST is governed by a bi-partite board with equal employer and union representation. Under the Act, the CSST is responsible for compensation, rehabilitation, prevention, standard setting and enforcement and research. Appendix B shows how the CSST is organized by function and staffing. It is regionalized with 13 regional offices. Its research activities are undertaken by a separate institute--the Institut de Recherche en Sante et en Securite du Travail (RSST).

Workers Covered

In 1984, approximately two million workers were covered by the CSST in 183,533 separate establishments. (This compares with approximately 350,000 workers covered by the Workers Compensation Board in Manitoba.)

Funding

The CSST is funded primarily by employer assessments. However, under the Act, the CSST is eligible for additional grants from the Government for training, information and research activities. In 1984, this amounted to approximately $2 million (about 4% of its total prevention budget). In addition, the cost of enforcement is paid by the Government and not from employer assessments.

The total amount spent by the CSST in 1984 on prevention activities amounted to $58.8 million. If one deducts the $2 million government grant, then the prevention budget amounted to approximately 8.1% of the employer assessments for that year. It is interesting to note that a major slice of the prevention budget is allocated to occupational health services (approximately 60%). (See Appendix C for a breakdown of the prevention budget.)

Organization and Functioning of Occupational Health Services

The CSST contracts with Community Health Departments to provide first line occupational health services in designated sectors. Up to 1984, services were required to be provided to workplaces within identified priority groups 1 and 2.

First line occupational health services are provided through Local Community Health Centres (LCHCs) which are responsible to the Community Health Departments. LCHCs exist to provide both primary care and public health services (in this sense they may be compared to Community Health Centres where they exist in Manitoba and Ontario).

In order to carry out their responsibilities of ensuring provision of first line services where required, the Community Health Departments have a core team consisting of a co-ordinator, an occupational health physician, an occupational health nurse, an industrial hygienist, a research assistant and a secretary. These core teams are responsible for establishing and overseeing the operations of the first line occupational health services in LCHCs. For example, the Community Health Departments core team review the health plans developed by the first line service.

The CSST establishes ratios for the number of occupational health professionals required for first line services. These ratios vary according to the relative risk of the particular industrial sector. In the construction sector, for example, one occupational health physician is required for every 16,000 employees and 2,600 establishments; one nurse for every 3,000 employees and one industrial hygiene technician for every 1,600 establishments. It is interesting to note that the occupational health teams at both Community Health Departments and LCHC level are balanced in representing both medical personnel as well as industrial hygienists.

According to CSST officials, LCHC occupational health services are not necessarily run by the occupational health physician; rather the teams themselves choose a co-ordinator from amongst themselves. Core teams at the Community Health Department level are administered by an appointed co-ordinator.

In 1985, there were approximately 600 occupational health professionals serving approximately 300,000 employees. In 1986, this figure is likely to rise to nearly 800.

The system for providing occupational health services in Quebec does not come cheaply. In 1984, the budget allocated to such services amounted to nearly $35 million. In 1986, this figure is likely to exceed $46 million, as services are extended to additional workplaces.

Analysis for environmental samples and biological monitoring undertaken by occupational health professionals providing first line services are conducted by the RSST. In 1984, the RSST conducted some 50,487 such analyses for the first line occupational health services.

Functions of First Line Occupational Health Services

The first priority of such services is to develop health programs for the workplaces under their responsibility.

It is interesting to note that in this health program both safety and health hazards have been assessed. The program also covers first aid and emergency procedures and may call for the undertaking of further studies to identify health concerns of workers.

According to CSST officials, the occupational health nurse in the first line service often plays a major role in communicating with joint committees for educational purposes and reviewing the health plan.

COMMENTS ON THE QUEBEC SYSTEM FOR PROVISION OF OCCUPATIONAL HEALTH SERVICES

During the recent visit to Quebec to study the occupational health services system, the writer met with CSST officials, occupational health professionals, employer and union representatives. From these discussions, a number of perceived problems emerged. In brief, these are:

- It is with some difficulty that the required positions for occupational health professionals are filled. At the present time, there is apparently a 40% vacancy rate.

  It should be noted that the Act does not require any specific qualifications --be met in appointing occupational health professionals. According to CSST officials, few certified industrial hygienists or physicians with post-graduate qualifications in occupational health are available in Quebec at the present time. In theory, the Department of Health and Social Services is responsible for ensuring that suitably qualified personnel are recruited for the Community Health Departments and for providing post-employment training.

  It was suggested by some of those interviewed that for these reasons the present quality of available personnel left something to be desired. However, there was a general consensus that this situation will improve in time as present incumbents gain experience and as more qualified professionals become available.

- A number of those interviewed felt that the first line services spent too much time conducting studies instead of providing services. The counter argument to this, however, was that given the number of workplaces involved studies were often the best way to gain information about health concerns.

- Despite general consensus about the acceptability of occupational health services provided through an independent source, it still appears that both employers and unions are, in some cases, taking steps to obtain their own professional expertise in this area. Some employers, for example, make use of private consulting services to review health programs developed for their workplaces by the occupational health services. Similarly, some unions are trying to obtain access to occupational health expertise particularly with respect to workers' compensation claims.

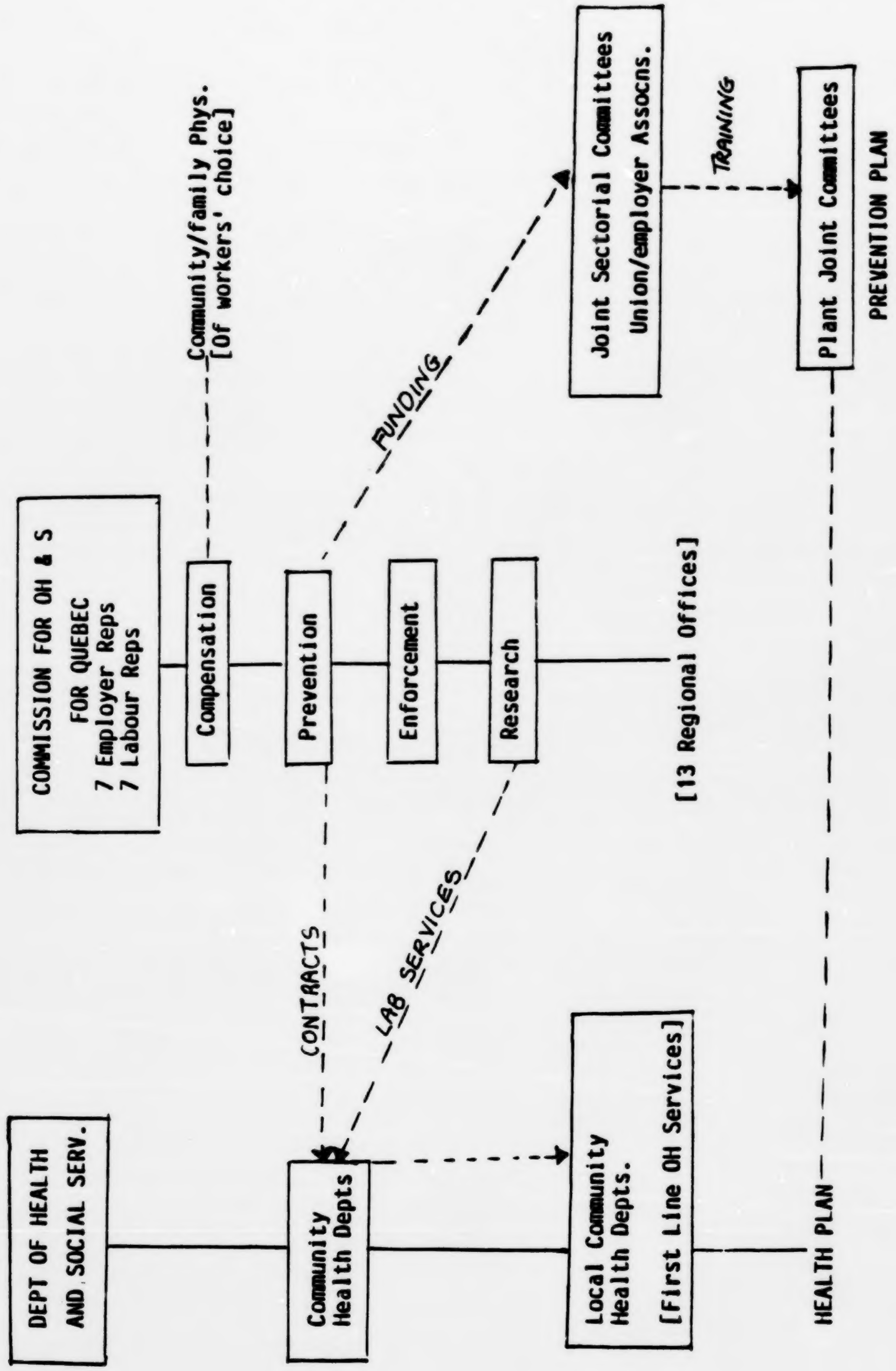
- Although both employer and union representatives agree that occupational health services should not have been provided directly through the CSST (principally because of the connection with enforcement), at least some feel that the CSST should establish, within its framework, a source of expert occupational health service advice and information.

- There is some concern that the provisions of the new Compensation Act allowing the physician of the worker's choice to make the primary report establishing a cause/effect relationship will result in costly and time-consuming appeals.

CONCLUSION

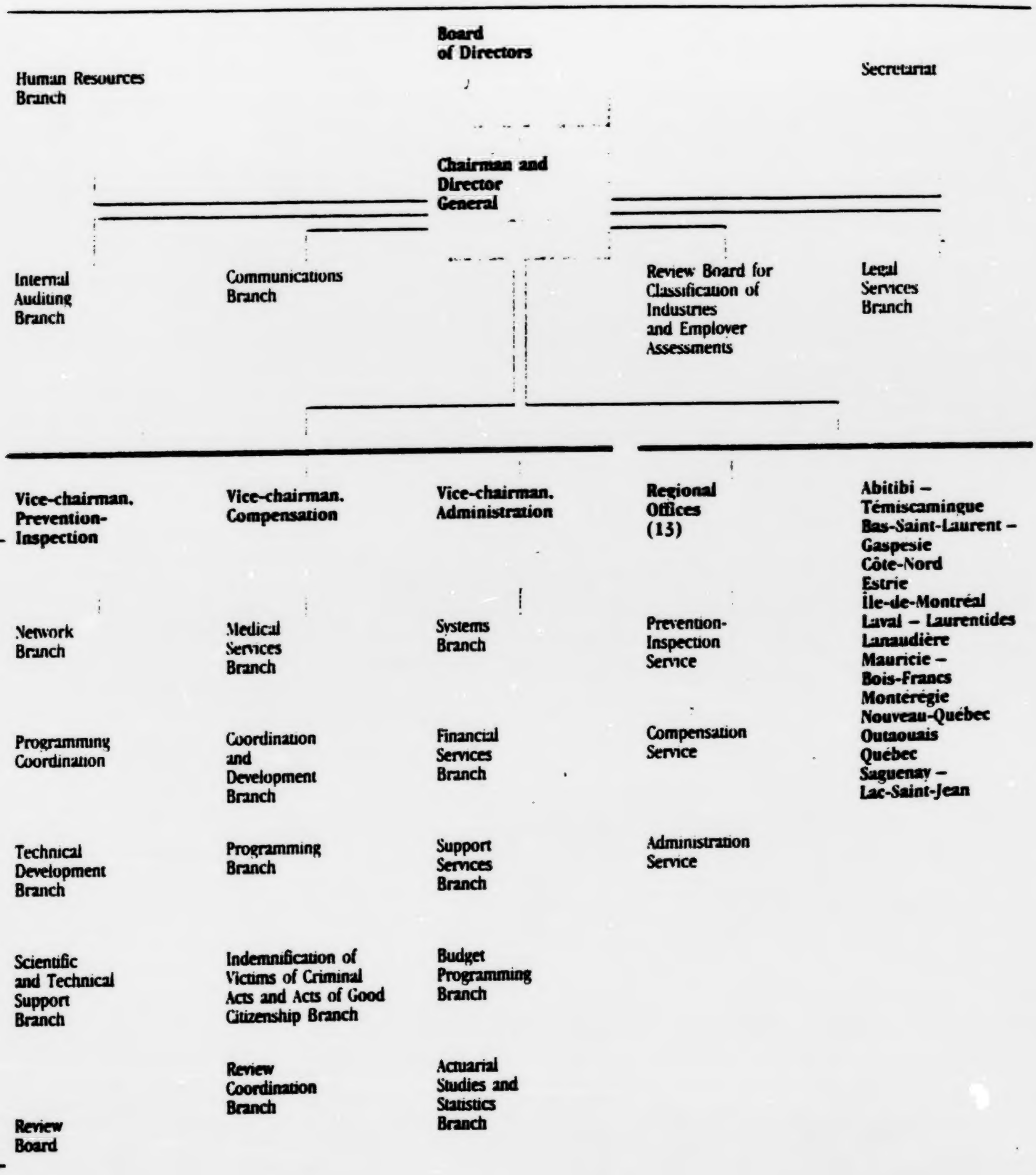
The Quebec system for the provision of occupational health services must be viewed within the general regulatory framework and in particular its three-tiered bi-partite structure. Great emphasis has been placed upon the provision of occupational health services within this structure as is evidenced by the extent of funding by the CSST. However, the occupational health services provided through this system places equal emphasis on health hazard assessment as it does on worker health surveillance. To this extent, the occupational health services in Quebec must be seen as playing a major role in the prevention of occupational disease and illness.

APPENDIX A


DEPT OF HEALTH AND SOCIAL SERV.
COMMISSION FOR OH & S FOR QUEBEC
7 Employer Reps
7 Labour Reps
Community Health Depts
Compensation
Prevention
Enforcement
Research
[13 Regional Offices]
Community/family Phys. [Of workers' choice]
CONTRACTS
LAB SERVICES
FUNDING
Local Community Health Depts.
[First Line OH Services]
Joint Sectorial Committees
Union/employer Assocns.
TRAINING
Plant Joint Committees
HEALTH PLAN
PREVENTION PLAN

APPENDIX B

The Commission's Operating Structure in 1984


Board of Directors
Human Resources Branch
Secretariat
Chairman and Director General
Internal Auditing Branch
Communications Branch
Review Board for Classification of Industries and Employer Assessments
Legal Services Branch
Vice-chairman, Prevention-Inspection
Network Branch
Programming Coordination
Technical Development Branch
Scientific and Technical Support Branch
Review Board
Vice-chairman, Compensation
Medical Services Branch
Coordination and Development Branch
Programming Branch
Indemnification of Victims of Criminal Acts and Acts of Good Citizenship Branch
Review Coordination Branch
Vice-chairman, Administration
Systems Branch
Financial Services Branch
Support Services Branch
Budget Programming Branch
Actuarial Studies and Statistics Branch
Regional Offices (13)
Prevention-Inspection Service
Compensation Service
Administration Service
Abitibi – Témiscamingue
Bas-Saint-Laurent – Gaspesie
Côte-Nord
Estrie
Île-de-Montréal
Laval – Laurentides
Lanaudière
Mauricie – Bois-Francs
Montérégie
Nouveau-Québec
Outaouais
Québec
Saguenay – Lac-Saint-Jean

APPENDIX C

Prevention Expenditures of the Commission

The expenditures of the Commission pertaining to the prevention activities it finances stood at 58.8 million $ in 1984. Occupational health services and research alone represented 80 % of the total, or 47.1 million $.

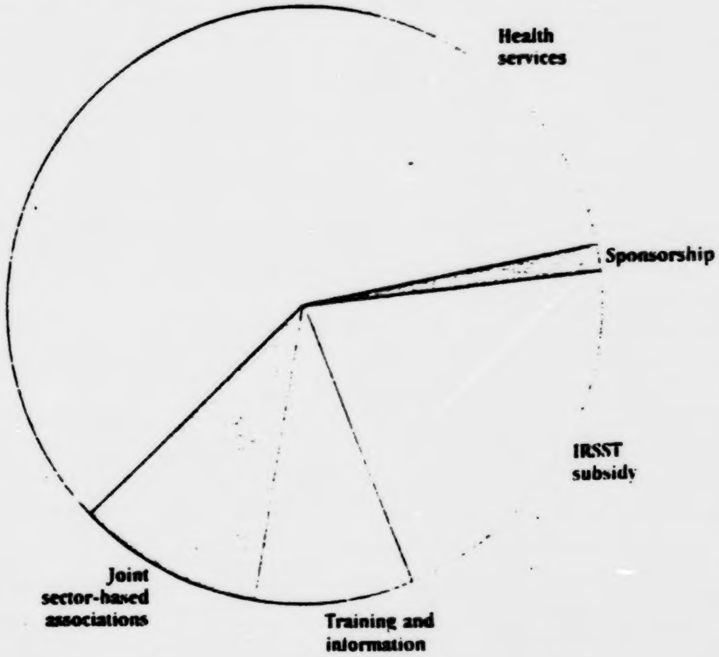
Compared with the previous year, the Commission increased its prevention spending by 20.6 million $, or 54 %. Of this amount, 14.2 million $ was assigned to health services, whose field or activity was enlarged with the designation of a second group of priority sectors, and 4.3 million $ went to research. Subsidies to union and employers' associations and joint sector-based associations went up by 12.6 %.

It is important to note that, under the Act respecting occupational health and safety, the government contributes part of the money needed for training, information and research each year to the Commission. Accordingly, in 1984, it paid close to 2 million $, used for subsidies granted to union associations for training purposes and to the IRSST for its research on occupational health and safety.

Likewise, under the Act, it is the government that assumes the costs of work inspection, the mandates for which were given to the Commission. An amount of 22.3 million $ was paid to the Commission in this regard in 1984.

11
Prevention Expenditures of the Commission (1984)

Expenditure Category	(000 $)	%
Training and information	**5 114**	**8.7**
☐ Subsidies to union associations	2 929	5.0
☐ Subsidies to employer's associations	2 185	3.7
Financing of joint sector-based associations	**5 782**	**9.8**
Occupational health services	**34 826**	**59.2**
☐ Public health services	33 863	57.6
☐ Maintenance of private health services	963	1.6
Sponsorships for programming purposes	**796**	**1.4**
Subsidy to the Institut de recherche en santé et en sécurité du travail	**12 288**	**20.9**
Total	**58 806**	**100.0**



[1] Including 992 340 $ paid by the government under section 250 of the Act respecting occupational health and safety.

[2] Including 4.5 million $ to RAMQ, 1.4 million $ to the IRSST and the rest to HC-CHDs.

[3] Amounts paid to employers in sectors not yet designated as priorities. Of this amount, 538 612 $ was paid in 1984 for the maintenance of health services during the previous year.

[4] Including 988 340 $ paid by the government under section 250 of the Act respecting occupational health and safety.

APPENDIX D

Hospital Centres that have a Community Health Department

Under service contracts with the Commission since 1981, the thirty-two hospital centres that have a community health department (HC-CHDs) fulfill different mandates connected with the implementation or operation of the occupational health and safety plan.

The table below indicates, for each HC-CHD, the number of service outlets in place at the end of 1984, the number of positions authorized in agreements with the Commission and the annual budget granted by the latter.

The realizations section of the table below shows the number of specific health programs for establishments transmitted to the Commission, the preparation of which constitutes the most important part of the HC-CHD mandate. It also gives a regional presentation of the number of applications for protective re-assignment of pregnant or breast-feeding workers whose file was examined by a HC-CHD prior to being sent to the Commission, as well as the number of industrial studies conducted following a benefit claim arising from an occupational disease.

	Operations			Achievements		
HC-CHDs, by CSST Regional Offices	**Positions Authorized**	**Service Outlets**	**Budget (000$)**	**Health Programs**	**Protective Re-Assignments**	**Industrial Studies**
Abitibi–Témiscamingue					211	10
Centre hospitalier Rouyn-Noranda	39.0	12	1 428	4		
Bas-Saint-Laurent–Gaspésie					371	8
Hôpital Saint-Joseph de Rimouski	17.8	5	609	—		
Hôtel-Dieu de Gaspé	15.2	7	610	18		
Hôtel-Dieu de Rivière-du-Loup	16.8	7	585	16		
Côte-Nord					134	13
Centre hospitalier régional Baie-Comeau–Hauterive	23.5	7	935	—		
Estrie					477	57
Centre hospitalier de l'Université de Sherbrooke	32.2	7	1 043	73		
Ile-de-Montréal					1 663	108
Hôpital général du Lakeshore	28.2	2	872	62		
Centre hospitalier de Verdun	17.5	2	577	20		
Hôpital Maisonneuve-Rosemont	51.4	5	1 548	87		
Hôpital Sainte-Justine	15.9	2	536	5		
Hôpital général de Montréal	17.4	1	577	10		
Hôpital du Sacré-Coeur	61.7	4	1 959	175		
Hôpital Saint-Luc	18.7	2	603	2		
Laval–Laurentides					643	75
Cité de la santé de Laval	25.2	2	882	35		
Hôtel-Dieu de Saint-Jérôme	37.0	5	1 219	—		
Centre hospitalier régional de Lanaudière	25.5	3	730	—		

Mauricie–Bois-Francs					353	16
Hôpital regional de la Mauricie	17.6	4	592	29		
Hôpital Sainte-Croix	22.0	5	718	42		
Centre hospitalier Sainte-Marie	20.2	6	661	14		
Montérégie					1 239	20
Centre hospitalier de Valleyfield	20.4	3	652	6		
Centre hospitalier Honoré-Mercier	42.7	4	1 448	112		
Hôpital Charles-Lemoyne	42.1	6	1 403	71		
Hôpital du Haut-Richelieu	24.8	4	807	46		
Nouveau-Québec						
Hôpital général de Montreal			14			
Outaouais					222	70
Centre hospitalier regional de l'Outaouais	26.8	6	879	16		
Québec					1 093	65
Centre hospitalier regional de la Beauce	38.4	7	1 333	65		
Hôpital de l'Enfant-Jésus	17.7	2	580	19		
Hôtel-Dieu de Lévis	16.9	4	574	28		
Centre hospitalier de l'Université Laval	20.8	7	692	27		
Hôpital du Saint-Sacrement	12.9	2	439	59		
Hôtel-Dieu de Montmagny	17.5	4	605	16		
Saguenay–Lac-Saint-Jean					696	218
Hôpital de Chicoutimi	17.0	3	597	10		
Hôtel-Dieu de Roberval	28.8	4	969	132		
Total	**829.6**	**144**	**27 676**	**1 199**	**7 102**	**660**

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1. Number of person/years authorized for basic teams, health programs and special projects. Approximately 90 % of these positions were filled at the end of 1984.

2. These services outlets are administered by HC-CHDs or by subcontractors with whom they have concluded agreements. CLSCs thus administered 91 of these service outlets in 1984.

3. Specific health programs for each establishment, which form a component of their prevention programs.

4. Including amounts paid for special projects.

5. Excluding an amount of 283 749 $ for the purchase of measuring instruments.

APPENDIX XI

SENTINEL HEALTH EVENTS

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Sentinel Health Events (Occupational): A Basis for Physician Recognition And Public Health Surveillance

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Abstract: A Sentinel Health Event (SHE) is a preventable disease, disability, or untimely death whose occurrence serves as a warning signal that the quality of preventive and/or therapeutic medical care may need to be improved. A SHE (Occupational) is a disease, disability, or untimely death which is occupationally related and whose occurrence may: 1) provide the impetus for epidemiologic or industrial hygiene studies; or 2) serve as a warning signal that materials substitution, engineering control, personal protection, or medical care may be required. The present SHE(O) list encompasses 50 disease conditions that are linked to the workplace. Only those conditions are included for which objective documentation of an associated agent, industry, and occupation exists in the scientific literature. The list will serve as a framework for developing a national system for occupational health surveillance that may be applied at the state and local level, and as a guide for practicing physicians caring for patients with occupational illnesses. We expect to update the list periodically to accommodate new occupational disease events which meet the criteria for inclusion. (*Am J Public Health* 1983; 73:1054–1062.)

Introduction

Successful control of occupationally related diseases depends on two factors: recognition and diagnosis of cases by physicians, and the implementation of surveillance, prevention, and occupational control programs. Sadly, both of these factors have historically received inadequate attention.

In a letter-to-the-editor of the *New England Journal of Medicine*[1] it was indicated that among 67 physicians, "more than half of whom were board-certified pathologists" and interested enough in pulmonary pathology to take a one week intensive post-graduate course, fewer than 10 per cent (i.e., only six of them) suspected and diagnosed asbestosis in a microscopic section selected so as to demonstrate "a straightforward example of abestosis." This was in sharp contrast to 75 to 80 per cent successful diagnoses in "mystery" cases of non-occupational disease. A recent *Annals of Internal Medicine* editorial, "Occupational Medicine: Too Long Neglected,"[2] further documents the isolation of occupational disease.

Thus, occupational disease, despite its profound impact directly and indirectly on all of us, continues to remain outside the mainstream of American medicine and health surveillance. For example, occupational disease has always received very little time in the curricula of medical schools.[3] In the introductory course to clinical medicine where the medical student first learns to take a medical history and begins to identify key questions that alert physicians to follow logic trees that may lead to a probable diagnosis, the occupational history is almost totally disregarded. At the present time, the practicing physician is often at a great disadvantage in the diagnosis of occupational disease due to an inadequate educational background and the consequent diminished level of suspicion regarding the occurrence of occupational disease.

Health surveillance systems have likewise failed to keep abreast of epidemiologic requirements for occupational disease surveillance. The US National Committee on Vital and Health Statistics[4] in 1977 expressed this concern:

> "A common and well standardized set of procedures for obtaining, recording, and coding occupation, industry and materials to which people are exposed can increase comparability and improve the cost-effectiveness of the collection of health data and environmental exposure data."

Indeed, in a recent survey of state vital registrars,[5] it was determined that only 12 of the 50 states routinely code the industry and/or occupation (I/O) data entered on all death certificates. Without routine and nationally comparable recording of I/O data on death certificates, characterization of states' occupational mortality patterns becomes impossible; further, any sort of uniform occupational surveillance on the national level using death certificates becomes impractical. Failure of hospital abstract services to code I/O data frustrates attempts to establish morbidity-based occupational health surveillance networks and to identify cases of high interest for follow-back.

Two remedial approaches are needed to improve the reporting of occupational disease. The first is a table of occupational diseases that may serve as a framework to assist the practicing (or nascent) physician in diagnosis and to guide him in therapy. The second approach, currently being implemented by the National Institute for Occupational Safety and Health (NIOSH), is to increase the number of states that code I/O data on records. The main purposes of this paper are to describe a method of increasing physicians' awareness of occupational disease and to make available to a broad range of users a documented table of these conditions for use in occupational medicine education and surveillance.

Methodology

In 1976, a table of disease events was developed based on the concept of the Sentinel Health Event (SHE).[6] An SHE is a preventable disease, disability, or untimely death whose occurrence serves as a warning signal that the quality

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From the Department of Preventive Medicine and Clinical Epidemiology, Harvard Medical School (Dr. Rutstein) and the Division of Surveillance, Hazard Evaluations, and Field Studies, NIOSH, Cincinnati (all other authors). Reprints can be obtained from Robert J. Mullan, MD, Surveillance Branch, DSHEFS, NIOSH, Robert A. Taft Labs, 4676 Columbia Parkway, Cincinnati, OH 45226; Clearinghouse on Health Indexes, National Center for Health Statistics, 3700 East-West Highway, Hyattsville, MD 20782; or David D. Rutstein, MD, Countway Library, Harvard Medical School, 10 Shattuck Street, Boston, MA 02115. This paper, submitted to the Journal December 17, 1982, was revised and accepted for publication March 21, 1983.

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of preventive and/or therapeutic medical care may need to be improved. Thus, these events serve as negative indices of the quality of medical care. For example, a case of polio is an SHE. The occurrence of this preventable disease signals a breakdown in the immunization aspect of health care. Repeated consultation with specialists from various fields produced Table A in the 1976 report which was published and last brought up to date in 1980.[7] Each condition was selected because: 1) it is relatively easily recognized by the practicing physician: 2) it appears as an unnecessary disease, an unnecessary disability, and/or an unnecessary untimely death, i.e., a condition that was either preventable and/or manageable; and 3) the recognition of a single case raises the question, "Why did this happen?", and justifies a careful search for remediable underlying causes.

This approach—in effect identifying and counting the number of preventable tragedies in the health care field—has been successfully used in the past. In the 1930s, for example, every maternal death occurring in New York City was vigorously pursued: pertinent facts were collected and later evaluated by a group of obstetricians. The evolution and implementation of this process was followed by a rapid drop in maternal mortality in the city.[8] Application of these principles to infant deaths in 1967 and 1968 in Massachusetts demonstrated that about one-third of infant deaths in this state were preventable by medical means.[9]

Based on the previous experience with maternal and infant mortality, which was then successfully applied to all persons and ages by the SHE approach, we were convinced that, with appropriate modification, the SHE concept could be successfully applied to the field of occupational disease. Thus, we have defined the Sentinel Health Event (Occupational) (SHE(O)) as: an unnecessary disease, disability, or untimely death which is occupationally related and whose occurrence may: 1) provide the impetus for epidemiologic or industrial hygiene studies; or 2) serve as a warning signal that materials substitution, engineering control, personal protection, or medical care may be required.

The occupational health literature was then surveyed to assemble a list of SHE(O)s each of which would meet three criteria of scientific proof: documentation of associated agent(s), of involved industries, and of involved occupations. The disease/condition should also be codable within the framework of the Ninth Revision, International Classification of Diseases Adapted for Use in the United States, 1975 (ICD-9).[10] A list of conditions was selected and submitted to a panel of consultants for review. Table A-(O), an adaptation of Table A from the original article,[8] contains those conditions which were judged by the consultants to meet the criteria above. Some conditions that do not presently meet the criteria for inclusion have been put on a holding list for later review. It is expected, therefore, that further advances in occupational health research will require expansion and modification of the present list to keep it up to date.

In Table A-(O) there are two broad categories of SHE(O)s represented. The first group includes those diseases or conditions which, by their inherent nature, are necessarily occupationally related. Such conditions include the pneumoconioses. In other words, it is unlikely that these diseases would occur in the absence of an occupational exposure to the inciting agent. The second set of conditions includes such diseases as lung cancer, leukemia, peripheral neuropathy, and ornithosis which may or may not be occupationally related. In the case of lung cancer, for example, it is clear that some cases will be associated with occupational exposure to asbestos. However, the major etiologic agent in lung cancer is smoking. Therefore, it is necessary when taking a medical history to consider both occupational and non-occupational factors. This distinction becomes more difficult when death certificates are used for surveillance purposes since no history is available. However, the occupation or industry of the decedent as recorded on the death certificate may indicate a possible association between the cause of death and the decedent's employment history. For this reason we have listed these occupations and industries in Table A-(O).

The Table

Table A-(O) lists occupational disease sentinel health events. It is arranged in order of ascending ICD code number and encompasses 50 ICD rubrics. In addition to ICD rubrics, etiologic agents or processes, and I/O information, the Table also indicates whether or not the manifested unnecessary disease, unnecessary disability, and/or unnecessary untimely death can be controlled by prevention and/or treatment. As an example, ICD 011, pulmonary tuberculosis, is a preventable disease (denoted "P" in the appropriate column), whereas unnecessary disability and untimely death from pulmonary tuberculosis can be avoided through both prevention ("P") and treatment (denoted "T" in the appropriate column). In the Table, an "O" has been affixed behind the condition's name when further I/O information is needed to establish the relationship of disease to occupation.

The Table may be entered via multiple routes contingent upon the parameter of interest. For example, a physician interested in the health effects of benzene may quickly scan the agent column for all entries pertaining to benzene. Similarly, a physician concerned with health effects seen among coke oven workers may rapidly note these effects by focusing on the I/O column.*

Utility

There are three facets to the utility of the SHE(O) list. The first relates to its application as a surveillance tool, the second to its value for the practicing physician, and the third to its value as a periodically updated compendium of occupationally related diseases.

As a routine surveillance tool, the list's practical attraction lies in the fact that all sentinel events are linked to an ICD code. Since almost all the available medical data sets (e.g., State Vital Registries, Social Security disability awards, hospital discharge records) are coded by ICD, rapid data processing of these data sets is possible with the appropriate software. As mentioned, one current drawback to the use of these data sets is the general lack of I/O information. While this fact has little impact on the use of those SHE(O)s which are inherently occupational (e.g., coalworkers' pneumoconiosis), it has important implications for those SHE(O)s where this further I/O information is

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* It should be noted that the so-called "E-codes" (those ICD rubrics which address the classification of accident-associated events ascribable to external causes) are not included in this Table. Most accidental injuries and deaths occurring in an occupational setting will be classified within these codes. Exclusion of these codes from this Table was for brevity's sake and due to the self-evident occupational relatedness of their occurrence. A compilation of these codes is available, however, and will be provided to interested individuals upon request.

TABLE A-(O)—Occupationally Related Unnecessary Disease, Disability, and Untimely Death

ICD-9	CONDITION	A	B	C	INDUSTRY/OCCUPATION**†	AGENT
011	Pulmonary Tuberculosis (0)*	P*	P,T*	P,T	Physicians[21], medical personnel[143], med lab workers[89].	*Mycobacterium tuberculosis.*[21,89,143]
011, 502	Silicotuberculosis	P	P,T	P,T	Quarrymen, sandblasters, silica processors, mining, metal foundries, ceramic industry.[33]	SiO_2 + *Mycobacterium tuberculosis.*[33,82,156]
020	Plague (0)	P	—	P,T	Shepherds, farmers, ranchers, hunters, field geologists.[17]	*Yersinia pestis.*[17]
021	Tularemia (0)	P	—	P,T	Hunters, fur handlers, sheep industry workers[89], cooks, vets, ranchers, vet pathologists.[169]	*Francisella tularensis.*[89,169]
022	Anthrax (0)	P	—	P,T	Shepherds, farmers, butchers, handlers of imported hides or fibers[30], veterinarians, veterinarian pathologists, weavers.[118]	*Bacillus anthracis.*[30,118,170]
023	Brucellosis (0)	P	P	P,T	Farmers, shepherds, veterinarians, lab workers[132], slaughterhouse workers.[118,170]	*Brucella abortus, suis.*[118,132,170]
037	Tetanus (0)	P	—	P,T	Farmers, ranchers.[169]	*Clostridium tetani*[169]
056	Rubella (0)	P	P	P	Medical personnel[61,113,142], intensive care personnel[143].	Rubella virus.[61,113,142]
070.0 .1	Hepatitis A (0)	P	P	P	Day care center staff[65,171], orphanage staff[37], mental retardation institution staff[71,184], medical personnel[62].	Hepatitis A virus[37,62,65,71,184,171]
070.2 .3	Hepatitis B (0)	P	P	P	Nurses and aides,[54,67,96] anesthesiologists[38], orphanage and mental institution staff[54], med lab personnel[96,102,106], general dentists[124] and oral surgeons[55], physicians[67,96,102].	Hepatitis B virus.[38,54,55,67,96,102,106]
070.4	Non-A, Non-B Hepatitis (0)	P	P	P	As above for hepatitis A and B	Unknown.
071	Rabies (0)	P	—	P	Veterinarians, animal and game wardens, lab researchers, farmers, ranchers, trappers.[169]	Rabies virus[169]
073	Ornithosis (0)	P	—	P,T	Psittacine bird breeders, pet shop staff, poultry producers, veterinarians, zoo employees.[119]	*Chlamydia psittaci*[119]
155M*	Hemangiosarcoma of the Liver	P	P	P	Vinyl chloride polymerization industry.[42]	Vinyl chloride monomer.[42,86,87,168,184]
					Vintners.[53]	Arsenical pesticides.[53,86]
160.0	Malignant Neoplasm of Nasal Cavities (0)	P	P,T	P,T	Woodworkers, cabinet, furniture makers.[12,14,34,107,151]	Hardwood dusts[12,14,34,107,151]
					Boot and shoe industry.[11,12]	Unknown.[11,12]
					Radium chemists and processors[52], dial painters[141].	Radium.[52,141]
					Chromium producers, processors, users.[86]	Chromates.[86]
					Nickel smelting and refining.[48,85,176]	Nickel.[48,85,86,176]
161	Malignant Neoplasm of Larynx (0)	P	P,T	P,T	Asbestos industries and utilizers.[149]	Asbestos.[86,149]
162	Malignant Neoplasm of Trachea, Bronchus, and Lung (0)	P	P	P	Asbestos industry and utilizers.[24,49,99]	Asbestos.[24,49,86,99,159]
					Topside coke oven workers.[104,145,146]	Coke oven emissions.[104,145,146]
					Uranium and fluorspar miners.[45]	Radon daughters.[45]
					Chromium producers and processors[51], users.[108,172]	Chromates.[51,86,108,172]
					Nickel smelters, processors, users.[48,85]	Nickel.[48,85,86]
					Smelters.[175]	Arsenic.[86,175]
					Mustard gas formulators.[182]	Mustard gas.[182]
					Ion exchange resin makers, chemists.[57,185]	Bis(chloromethyl) ether, chloromethyl methyl ether.[57,86,185]
158, 163	Mesothelioma (MN of Peritoneum) (MN of Pleura)	P	—	P	Asbestos industries and utilizers.[24,99]	Asbestos.[24,62,86,99,159,160]
170	Malignant Neoplasm of Bone (0)	P	—	P	Dial painters[109], radium chemists and processors.[52]	Radium.[52,109]
187.7	Malignant Neoplasm of Scrotum	P	—	P,T	Automatic lathe operators[72,91], metalworkers[150].	Mineral/cutting oils.[72,86,91]
					Coke oven workers, petroleum refiners, tar distillers.[72]	Soots and tars, tar distillates.[72,86]
188	Malignant Neoplasm of Bladder (0)	P	—	P	Rubber and dye workers.[39,40,189]	Benzidine[158,189], alpha and beta naphthylamine[39,86], auramine[40,86], magenta[40,86], 4-aminobiphenyl[116], 4-nitrophenyl.[86,179]
189	Malignant Neoplasm of Kidney, Other, and Unspecified Urinary Organs (0)	P	P	P	Coke oven workers.[145,146]	Coke oven emissions.[145,146]
204	Lymphoid Leukemia, Acute (0)	P	—	P	Rubber industry.[114,115]	Unknown.[114,115]
					Radiologists.[110,111]	Ionizing radiation.[41,110,111]
205	Myeloid Leukemia, Acute (0)	P	—	P	Occupations with exposure to benzene	Benzene.[16,83,84,86,180,181]
					Radiologists.[110,111]	Ionizing radiation.[41,110,111]
207.0	Erythroleukemia (0)	P	—	P	Occupations with exposure to benzene.	Benzene.[16,83,84,86,180,181]
283.1	Hemolytic Anemia, Non-autoimmune (0)	P	—	P,T	Whitewashing and leather industry.[44]	Copper sulfate.[44]
					Electrolytic processes, arsenical ore smelting.[78]	Arsine.[78,92,134,139]
					Plastics industry.[15]	Trimellitic anhydride.[15]
					Dye, celluloid, resin industry.[59]	Naphthalene.[59]
284.8	Aplastic Anemia (0)	P	—	P	Explosives manufacture.[81,182]	TNT.[70,81,182]
					Occupations with exposure to benzene.	Benzene.[16,180,181]
					Radiologists[111], radium chemists and dial painters[183].	Ionizing radiation.[41,111,183]

TABLE A-(O)—Continued

ICD-9	CONDITION	A	B	C	INDUSTRY/OCCUPATION*†	AGENT
288.0	Agranulocytosis or Neutropenia (0)	P	—	P	Occupations with exposure to benzene Explosives and pesticide industries.[32] Pesticides, pigments, pharmaceuticals.[93]	Benzene [16,180,181] Phosphorus.[32] Inorganic arsenic [93]
289.7	Methemoglobinemia (0)	P	—	P,T	Explosives and dye industries.[56,70,125,188]	Aromatic amino and nitro compounds (eg aniline, TNT, nitroglycerin) [56,70,81,125,188]
323.7	Toxic Encephalitis (0)	P	P	P	Battery, smelter, and foundry workers [19,31] Electrolytic chlorine production, battery makers, fungicide formulators.[22,31]	Lead [19,31] Inorganic and organic mercury [22,31,56]
332.1	Parkinson's Disease (Secondary) (0)	P	P	—	Manganese processing, battery makers, welders.[154] Internal combustion engine industries [90]	Manganese [154,167] Carbon monoxide [90]
334.3	Cerebellar Ataxia (0)	P	P	—	Chemical industry using toluene.[28] Electrolytic chlorine production, battery makers, fungicide formulators.[31,43]	Toluene [28] Organic mercury [31,43]
357.7	Inflammatory and Toxic Neuropathy (0)	P	P,T	P,T	Pesticides[75], pigments, pharmaceuticals [46] Furniture refinishers, degreasing operations [74] Plastic-coated-fabric workers [28] Explosives industry [73] Rayon manufacturing [56,179] Plastics, hydraulics, coke industries [121] Battery, smelter, and foundry workers [19,31] Dentists[88,161], chloralkali workers[66] Chloralkali plants, fungicide makers, battery makers.[43] Plastics industry[127], paper manufacturing[100]	Arsenic and arsenic compounds.[46,75] Hexane [74,155] Methyl n-butyl ketone [28] TNT [73] CS_2 [56,155,177,179] Tri-o-cresyl phosphate [121,155] Inorganic lead [19,31,56,155] Inorganic mercury [88,161,166] Organic mercury [43,56] Acrylamide [100,127,155]
366.4	Cataract (0)	P	P,T	—	Microwave and radar technicians [90] Explosives industries [73] Radiologists [120] Blacksmiths, glass blowers, bakers [120] Moth repellant formulators, fumigators [59] Explosives, dye, herbicide and pesticide industries [130]	Microwaves [90] TNT [53,70] Ionizing radiation [63,120] Infrared radiation [63,120] Naphthalene [59,63,120] Dinitrophenol[120], dinitro-o-cresol [130]
388.1	Noise Effects on Inner Ear (0)	P	P	—	Exposure [131]	Excessive noise [131]
443.0	Raynaud's Phenomenon (Secondary) (0)	P	—	—	Lumberjacks[87,144], chain sawyers, grinders, chippers [173] Vinyl chloride polymerization industry [47,98,103]	Whole body or segmental vibration [87,144,173] Vinyl chloride monomer [47,87,98,103]
495.0 to 495.6, .8	Extrinsic Allergic Alveolitis	P	P	P,T	Farmer's lung, baggassosis, bird fancier's lung, suberosis, malt worker's lung, mushroom worker's lung, maple bark disease, cheese washer's lung, coffee worker's lung, fish-meal worker's lung, furrier's lung, sequoiosis, wood worker's lung, miller's lung.[147,187]	Various agents [147,187]
493.0, 507.8	Extrinsic Asthma (0)	P	P,T	P,T	Jewelry, alloy and catalyst makers.[35,135] Polyurethane, adhesive, paint workers [35,138] Alloy, catalyst, refinery workers [35] Solderers [35] Plastic, dye, insecticide makers.[35] Foam workers, latex makers, biologists [35] Printing industry [35] Nickel platers.[35] Bakers.[35,174] Plastics industry [35,138] Woodworkers, furniture makers.[35] Detergent formulators.[35]	Platinum [35,135,137] Isocyanates.[35,137,138] Chromium and cobalt [35] Aluminum soldering flux [35] Phthalic anhydride [35,137] Formaldehyde [35] Gum arabic [35] $NiSO_4$ [35] Flour [35,174] Trimellitic anhydride [35,138,137] Red cedar and other wood dusts [35] *Bacillus*-derived exoenzymes [35]
500	Coalworkers' Pneumoconiosis	P	P	P	Coal miners.[76,122]	Coal dust.[76,82,122]
501	Asbestosis	P	P	P	Asbestos industries and utilizers.[24,99,128]	Asbestos.[24,82,99,128,158]
502M	Silicosis	P	P	P	Quarrymen, sandblasters, silica processors[20], mining, metal, and ceramic industries [129,190]	Silica.[20,82,129,154,190]
	Talcosis				Talc processors.[95]	Talc.[95]
503M	Chronic Beryllium Disease of the Lung	P	P	P	Beryllium alloy workers, ceramic and cathode ray tube makers, nuclear reactor workers.[68,183]	Beryllium [68,183]
504	Byssinosis	P	P	P	Cotton industry workers.[29,117,128]	Cotton, flax, hemp, and cotton-synthetic dusts[117,29,128]
506.0, 506.1	Acute Bronchitis, Pneumonitis, and Pulmonary Edema Due to Fumes and Vapors (0)	P,T	P,T	P	Refrigeration, fertilizer[101], oil refining industries.[123] Alkali and bleach industries.[123] Silo fillers, arc welders, nitric acid industry [58] Paper and refrigeration industries, oil refining.[123] Cadmium smelters, processors.[123] Plastics industry [73]	Ammonia.[101,123] Chlorine.[123] Nitrogen oxides.[58,123] Sulfur dioxide [123] Cadmium [123] Trimellitic anhydride [73]
570, 573.3	Toxic Hepatitis (0)	P	P	P	Solvent utilizers, dry cleaners,[23] plastics industry[105] Explosives and dye industries.[32,70] Fire and waterproofing additive formulators [79,94] Plastics formulators.[112]	Carbon tetrachloride[140], chloroform[23], tetrachloroethane[105], trichloroethylene [19,23] Phosphorus[32], TNT[70,182] Chloronaphthalenes.[79,94] Methylenedianiline.[112]

TABLE A-(O)—Continued

ICD-9	CONDITION	A	B	C	INDUSTRY/OCCUPATION*†	AGENT
					Fumigators, gasoline, fire extinguisher formulators.[133]	Ethylene dibromide.[133]
					Disinfectant, fumigant, synthetic resin formulators.[80]	Cresol.[80]
584, 585	Acute or Chronic Renal Failure (0)	P	P,T	P,T	Battery makers, plumbers, solderers.[157]	Inorganic lead.[157]
					Electrolytic processes, arsenical ore smelting.[78,139]	Arsine.[78,134,138,157]
					Battery makers, jewelers, dentists.[157]	Inorganic mercury.[157]
					Fluorocarbon formulators, fire extinguisher makers.[157]	Carbon tetrachloride.[84,157]
					Antifreeze manufacture.[25]	Ethylene glycol.[25]
606	Infertility, Male (0)	P	P	—	Formulators.[38]	Kepone.[38]
					DBCP producers, formulators, and applicators.[50,152,188]	Dibromochloropropane.[50,152,188]
692	Contact and Allergic Dermatitis (0)	P,T	P,T	—	Leather tanning, poultry dressing plants, fish packing, adhesives and sealants industry, boat building and repair.[13]	Irritants (e.g., cutting oils, solvents, phenol, acids, alkalis, detergents); Allergens (e.g., nickel, chromates, formaldehyde, dyes, rubber products).[146]

External causes of injury and poisoning (occupational) include accidents and are classified in the ICD-9 under the E codes.

A = Unnecessary disease
B = Unnecessary disability
C = Unnecessary untimely death
* = INDUSTRY/OCCUPATION listings are examples only
†Industry/Occupation reference numbers inside commas and inside periods apply only to the immediately preceding category; those outside of periods apply to all prior categories pertaining to a particular agent or process.
+ (0) = Only where an occupational exposure can be established
* P = prevention, T = treatment
*M = Modified ICD rubric

necessary to establish the sentinel nature of the event. For those states which do code I/O information on death certificates, software is easily developed to run cross tabulations of ICD code by I/O (Figure 1). Even in the absence of such I/O coding, the SHE(O) nonetheless has immediate applicability since the inherently occupational SHE(O)s may be readily surveyed and tracked.

As an episodic surveillance tool, the SHE(O) list may serve as a screening device for occupationally related diseases. When an SHE(O) occurs, the death certificate should be forwarded to state occupational safety and health officials or the epidemiologist where appropriate. A study of these selected events may indicate where follow-up is desirable and every effort should be made to be sure that this is done. In the absence of mandatory occupational disease reporting in states, cooperation may be arranged between hospital administration and staff to attempt to obtain similar information from hospital discharge records.

The Table may also be of value to the practicing physician. By scanning the Table he/she can easily identify the pertinent industries/occupations of his/her patients. Table A-(O) should be helpful in recognizing occupational disease in patients and in identifying the kinds of such illness that are likely to be present in his/her practice.

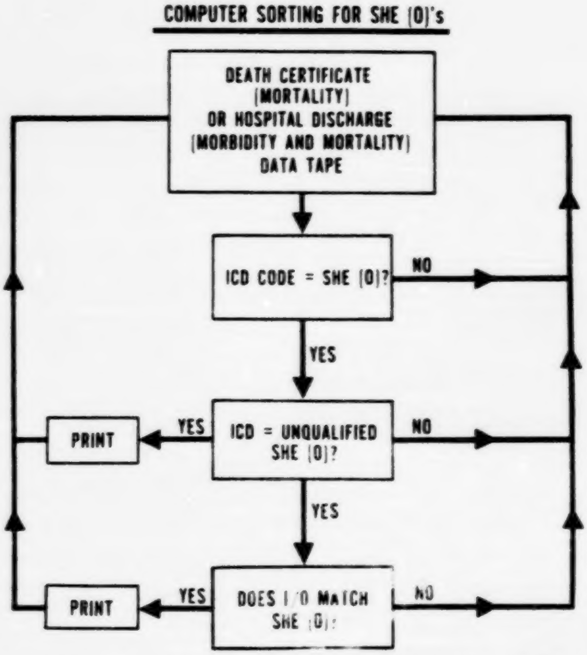
COMPUTER SORTING FOR SHE (0)'s
DEATH CERTIFICATE (MORTALITY) OR HOSPITAL DISCHARGE (MORBIDITY AND MORTALITY) DATA TAPE
ICD CODE = SHE (0)?
NO
YES
PRINT
YES
ICD = UNQUALIFIED SHE (0)?
NO
YES
PRINT
YES
DOES I/O MATCH SHE (0)?
NO

FIGURE 1—Computer Sorting for Sentinel Health Events (Occupational)

It must be acknowledged that this approach has some limitations. In the case of death certificates, where exposure data are usually impossible to obtain, we must impute exposure from the information given about the decedent's "last" or "usual" occupation. The issue of latency is also difficult to overcome: e.g., if a case of mesothelioma is discovered, it may not be valuable as an index case since the environment in which the exposure took place may now be completely changed. Nevertheless, an accurate recording of occupational experience on death certificates and on hospital and other medical records is necessary if the prevention, treatment, and management of occupational disease is to be effective. This concept is included in the studies by NIOSH, in collaboration with selected states, of the utility and validity of the SHE(O) method.

Effective control of occupational disease cannot be successful without the active collaboration of those practicing physicians who are responsible for suspecting and diagnosing occupational disease in their patients. Such collaboration could be accomplished if, in the near future, medical education in the medical schools and in the hospitals brings occupational medicine into the mainstream of American medicine.

Finally, the list provides a powerful heuristic framework upon which to build. As a tool for researchers, Table A-(O) can provide insight into priority setting and decision making in occupational safety and health research. Periodic review and updating of this table is anticipated as our knowledge of occupational disease expands.

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